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31, 1975

*Aerospace Rescue & Recovery Service (MRC)*

*Briefings  
Combat Aircrew Recovery  
May 65 - July 67*

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DEPT OF THE AIR FORCE  
HQ AEROSPACE RECOVERY SERVICE  
SCOTT AFB, ILLINOIS 62225

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Brooks

MAY 1965

Slide 2 → General McConnell, we are indeed grateful to have this opportunity to discuss with you combat aircrew recovery in SE Asia.

Slide 3 → This presentation will briefly cover the background, review of the current situation, deficiencies which affect recovery operations, the corrective actions necessary to improve matters, and, finally, our recommendations.

Slide 4 → First, a few words on the background of combat aircrew recovery.

After Korea, the combat aircrew recovery resources of the Air Rescue Service were reduced and the combat crew recovery mission eliminated. The small numbers of helicopters were dispersed to all parts of the world to provide a peacetime rescue capability. The only combat crew recovery capability consisted of one group of long-range C-47s for deep penetration recoveries of SAC crews from behind-the-lines. In 1958, even this group was eliminated. Consequently, the development of combat recovery tactics did not keep pace with other developments in the tactical forces. By September of 1961, all recovery helicopters had been retired and Air Rescue Service was equipped with only 58 fixed-wing aircraft. Rescue Service efforts were directed toward peacetime tasks. In planning, it was envisioned that contingency tasks would be

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accomplished by an extension of the peacetime effort. The same equipment was to be used for both. It is important to note, however, that aircraft and equipment designed for peacetime will not always suffice for wartime, but aircraft designed for wartime will generally fulfill peacetime requirements.

SLIDE 5

→ With the initiation of hostilities in SE Asia, the Air Force was not prepared to effectively accomplish the combat rescue mission. *→ All aircraft in the inventory were outdated.* Recovery tactics had to be developed as the war progressed, since no recorded operational doctrine or combat recovery manuals were available. Progress is being made, however, and the outdated equipment is being used to the best of our ability. The record shows there is a lot to be desired. Response is too slow; we are limited to daylight operation, and the Rescue equipment is not compatible with that of the forces being supported. These are deficiencies which must be corrected on an expedited basis.

SLIDE 6

→ The value of combat crew morale needs no amplification. When combat crews are assured of a reasonable chance of being rescued, certainly their effectiveness is enhanced. Although no one has ever been able to calculate the value of an airman's life, the cost of training combat crews and the time lost for training can be measured. Therefore, recovery represents a monetary value to this nation, and, more importantly, conserves this valuable trained resource.

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SLIDE 7 → The Air Rescue Service was called on to provide a combat aircrew recovery capability in SE Asia in May 1964. However, the first published recognition of a wartime role was not contained in any document until it appeared in the USAF Wartime Guidance in March 1965. Since this publication receives limited distribution, the authority for support that Rescue needs to develop the combat capability is not ~~widely~~ widely recognized.

Under the present circumstances, the Air Force must take immediate steps to insure that all echelons recognize the combat role of the Rescue Service. With this background information, let's take a look at how the recovery forces were developed in SE Asia and where we stand today.

SLIDE 8 → This slide shows initial ARS forces in SEA from June 1964 through August of that year: **We had 7 aircraft.**

2 HU-16s at Da Nang

2 HU-16s at Korat

3 Unarmored HH-43Bs at Nakhon Phanom

SLIDE 9 → Since that date, we have improved the force structure. As of now, we have the 38th Air Rescue Squadron at Tan Son Nhut with 10 helicopter detachments in Viet Nam and Thailand. The detachments have a total of 28 short-range helicopters. The Binh Thuy and Pleiku detachments are authorized, but will not be physically in place until later this year. **[17 HH-43Bs, 9 HH-43Fs, 2 CH-3Cs]**

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From Udorn we operate 4 HC-54s and from Da Nang, 5 HU-16s.

With this force structure, the following tactics are employed to search for, locate, and recover downed combat personnel.

SLIDE  
10

~~Direction~~ Direction for preplanned missions comes from the 2d AD Frag Order, <sup>AND</sup> The 38th squadron alerts and directs Rescue forces by Frag Order ~~transmitted by ground relay~~, <sup>There</sup> to meet mission requirements, ~~which~~ include:

SLIDE  
11

Fixed-wing orbits by HC-54s along the Thailand border, and HU-16 orbits in the Gulf of Tonkin area. These aircraft act as forward on-scene mission command posts to coordinate and control recovery activities as required. The Frag Order may also specify that the helicopters will be prepositioned at advanced locations that are as close as possible to the planned strike areas, such as Site 36 in Northern Laos. Within their limited range capabilities, the helicopters are scrambled by the orbiting Rescue fixed-wing aircraft as required. In addition to the helicopters operating forward, a scramble alert posture is maintained by each detachment to meet any emergency within their capability.

SLIDE  
12

RESCAP and hostile fire suppression are furnished by tactical forces. ~~Direct~~ Two-way radio communications are maintained between strike and ARS forces. Rescue aircraft in orbit maintain

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continuous radio contact with directing agencies.

As the tactical mission activity has rapidly expanded in SE Asia, the outdated equipment has seriously restricted our capability, and we have been forced to rely upon the HH-43 and HU-16 as our primary combat recovery vehicles.

The HH-43B was designed and procured specifically for the local base rescue mission. It was not envisioned to be used for the combat recovery role. This slide shows the short radius of the B and F models. The normal B radius is in green, the F in red. By carrying additional 55 gallon drums of fuel, the radius of the B model has been extended to equal that of the HH-43F, as shown here. The combat configuration of the -43F provides auxiliary self sealing tanks, however, this radius is still inadequate for recovery operations in North Viet Nam, even by staging out of forward sites in Laos. (Show Site 36 and Hue Phu BI)

The emergency loan from TAC of 2 CH-3Cs has helped some, but does not fully meet the range, speed, and loiter requirements. However, staging from the forward locations in Laos, it can reach any point in the northern portion of North Viet Nam. Note the radius in yellow.

The HC-54 and HU-16 are not compatible to the combat recovery mission. Both are restricted in speed and ceiling, with no recovery capability over land. The HU-16 has a limited capability when daytime water conditions permit.

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With these forces, Rescue has successfully saved 70 combat personnel, including:

36 USAF

15 USN

15 USA

4 VNAF

These were picked up at the locations shown. Of these 70 saves, 60 were combat crew members.

However, out of 177 requests, this gives us only a 34% effectiveness rating. We believe this percentage can be and must be improved.

Now, let's look at some of the major deficiencies hampering effective recovery operations.

Besides the limitations in range of the HH-43B helicopters, as previously shown, this small aircraft is limited to daylight VFR operations. Its top speed is 90 knots, there are no provisions for crew or aircraft protective armor, and it is single engine.

The HH-43F has been specially configured for aircrew recovery in SE Asia, with crew and component protective armor, an upgraded engine, and shatterproof glass. However, it is only marginally capable of limited instrument and night operations; the radius of actions is only 130 N miles; and no increase in speed has been achieved.

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**SLIDE 20**

→ The Ch-3C was bought by the Air Force as a general utility helicopter. This aircraft is not configured for combat operations, and does not have auxiliary tanks for extended range or loiter. In addition, there are no provisions for suppressive armament.

**SLIDE 21**

→ The HC-54 has no recovery capability, is over 20 years old, cruises at 140 knots, <sup>AND</sup> is not compatible with the tactical forces in terms of speed and altitude. It lacks a controller position with suitable communications to direct recovery operations. No back-up communications equipment is installed.

**SLIDE 22**

→ The HU-16 is limited to VFR daylight water landings in relatively smooth sea conditions. This aircraft has been in the inventory since 1949, and like the HC-54, is slow and limited to low altitude operations. It is important to bear in mind that these aircraft were adapted for the peacetime rescue mission. None were bought or designed for combat aircrew recovery. The low speeds of all the aircraft delay recovery, and higher speeds are required to reduce the time interval between ejection and pickup.

**SLIDE 23**

→ In the personal survivor equipment area, there are serious deficiencies. For example, the URC-10 and URT-21 beacon have proven to be inadequate in battery life reliability and range. In addition, we have experienced shortages in supply and test equipment. A new type battery, plus test equipment, are being delivered in SE Asia at



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at the present time. This is only a stop-gap measure, and recommendations will be made later as to positive corrective action. In addition to the improved batteries and test equipment, a pre-amplifier is being installed in rescue aircraft which will increase the reception range.

Slide  
24

→ The visual signaling devices have proven difficult to ~~distinguish~~ **IDENTIFY**. The only available pen gun flares and strobe lights look like enemy groundfire from the air and this creates confusion in the recovery zone. Corrective action is being taken to develop a pen flare, with foliage penetration capabilities, and a star burst shell. In addition, a sleeve on the strobe light is being developed with a built in filter to make directional and flash changes so that it does not look like gunfire. This sleeve has been tested, approved by 2d AD, and deliveries are expected in November 1965. Again, these are only stop-gap measures.

Slide  
25

→ In respect to the Avionics/Communications area, the lack of adequate NAVAIDS at the forward sites limits use to day VFR conditions. Our headquarters is investigating the possibility of providing a portable navigation beacon at forward sites, ~~which will~~ **eliminate this problem.** ~~At~~ **also** at the present time, action is **also** underway to install a TACAN in Northern Laos.

Another lesson learned is that the pilot of the rescue fixed-wing aircraft can't control and plot the positions of recovery and

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tactical aircraft and fly his own aircraft at the same time. When a recovery mission is in progress, the Rescue aircraft commander must coordinate and direct the activities of the recovery aircraft, direct RESCAP and fire suppression tactical aircraft, and maintain a complete current status of all aircraft involved. To effectively manage all facets of the mission, an additional mission controller's position is required in the control aircraft. At the present time, HC-54s are being JURYRIGG modified in the theatre to provide this extra control position.

SAIDE  
26

→ In order to reduce the access time to the area north and west of Hanoi, our helicopters have been staging from crude forward operating locations in Laos. Refueling from 55 gallon drums, with hand pumps, is incompatible with the current status of air technology, but these are conditions under which our recovery forces have been forced to operate. We are taking action at the present time to provide portable rubberized fuel cells, with powered fuel pumps, to facilitate operations from these sites. These forward bases have contributed, in great part, to several successful recoveries. A like capability on the east coast of North Viet Nam would also be desirable, ~~to decrease the time and distance required to reach the downed airman.~~ Since there are no friendly forward bases to operate from in proximity to the eastern area of North Viet Nam, we are requesting the Navy to

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provide information on the availability of a surface vessel with a helicopter landing pad. This ship would operate in the Gulf of Tonkin with helicopters aboard, and provide a more rapid response than is presently possible in the coastal areas of North Viet Nam. This would only be an interim measure, however, until receipt of the HC-130/HH-3 air-to-air refueling system, which will be discussed in a few moments.

SLIDE  
27

→ The introduction of 6 HH-3<sup>E</sup> helicopters in November of this year is the first major step to correct aircraft deficiencies. ~~The HH-3E~~ <sup>IT</sup> is combat configured; equipped for IFR operations, and provided with an increased fuel capacity. The inclusion of Doppler radar permits precision navigation, under instrument conditions, to a pre-determined point. It is fitted with crew and critical component armor, communications equipment compatible with all aircraft currently operating in SE Asia, and a 240 foot hoist to penetrate dense jungle foliage. As

SLIDE  
28

→ shown on this slide, the increased range of the HH-3<sup>E</sup> over the helicopters used to date, will offer a substantial increase in recovery capability. For example, ~~operating out of Udorn or Da Nang,~~ <sup>IT</sup> it can reach any point in North Viet Nam and return to home base. If operated from a forward location, such as Site 36 in Laos, the additional range capability can be converted to loiter time to provide ~~more~~ rapid response to an emergency deep in North Viet Nam. To increase

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\*  
SLIDE  
29

loiter time to an even greater degree, and further enhance this capability, an air-to-air refueling system is being developed which will enable the HH-3 to remain on station for extended periods. This system is currently in the preliminary testing phase. If development and testing of this air-to-air refueling system can be accelerated, it is believed that an operational system can be employed in Viet Nam by July of 1966. Air-to-air refueling will eliminate the requirement for operations from Laotian sites.

*GENERAL TROTS*  
**Greatly** With the introduction of the HC-130/HH-3 team in Viet Nam, a **greatly improved** combat recovery system will be realized for the first time.

The major limitation will be in the numbers of aircraft available.

SLIDE  
30

*GENERAL TROTS*  
→ Not until late 1966, will the long range recovery helicopter force reach the level of 16. This force was planned prior to the March 1965 strikes in North Viet Nam, and was based on the level of tactical activities which existed prior to that time.

SLIDE  
31

In order to meet the recovery requirements based on the current level of conflict, and approved tactical attrition rates, 11 HC-130s and 32 HH-3 aircraft are required NOW.

The introduction of the HC-130 will provide an improved communications and control capability over the "make-shift" system which is now being installed in the HC-54. A built in manual plotting position, with redundant communications, will enable the recovery controller to plot the positions, call signs, ordnance, and

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fuel conditions of participating tactical and recovery aircraft. This will result in a more effective direction of the effort. Until recovery controllers are completely familiar with tactical procedures and control, this position is expected to be jointly manned by recovery and tactical personnel.

SLIDE

32

*partially resolved*

→ The current lack of capability for night recovery will be upon receipt of the HH-3 helicopters, operating in conjunction with the fixed-wing aircraft. The IFR Doppler equipped HH-3 will proceed to the pickup area after the survivor has been visually or electronically located by the fixed-wing aircraft. The helicopter will be vectored to the pickup point, and a flare drop pattern established by the fixed-wing aircraft. The helicopter will then proceed, as during daylight hours, with suppression fire provided by a RESCAP flight working under the flares.

SLIDE

33

→ This brings up the problem of protection for our own aircraft. The only armament currently provided to the helicopter crews for suppression fire is the M-16 automatic rifle. Many recoveries have been delayed awaiting fighter support to drive off enemy ground troops. An increased capability in suppression armament for the helicopter crews is required to permit a greater degree of self-reliance and protection. Lightweight automatic weapons are available which provide a rate of fire up to 6,000 rounds per minute. Immediate attention must be given to studying the feasibility of equipping recovery helicopters with this type weapon.

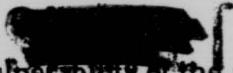
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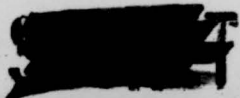
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To reduce the vulnerability of the unarmed HH-43B to groundfire, action is being taken to provide self-sealing main tanks. As long as the B model must be used, the nature of the war in Viet Nam demands that this limited protection be provided to rescue crews. Procurement action has been initiated, and installation will be accomplished in the field.

Now, a comment on organization. When the Air Rescue Service initially assigned resources to SE Asia, they were organized under a detachment of the Pacific Air Rescue Center on a TDY basis. As the requirements increased and activities were stepped up, it became apparent that we could not continue to support the TDY requirement. Therefore, we now have a permanent helicopter squadron with 9 detachments.

At the same time helicopter resources were being assigned to the area, we supported the fixed-wing requirement on a temporary duty basis. This requirement will continue for the foreseeable future, and we have recommended to your Hq, that a fixed-wing squadron be organized on a permanent basis.

At the same time, we reviewed the overall command and control structure, and found, that due to the stepped up activities, there is a requirement for a Senior Rescue-Qualified Officer with a small staff at Tan Son Nhut. This officer will be the Deputy to the Commander 2d AD for all rescue matters. He will command, supervise and control

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all recovery forces in the area. The reorganization proposal was submitted last month.

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In addition to providing improved recovery mission control, the new organization will provide adequate staff personnel to continually review and update operational tactics and techniques. We have already initiated action, in conjunction with 2d AD, to document combat recovery doctrine and methodology. A brief of pertinent tactics, in brochure form, will be submitted to 2d AD for coordination. This brochure will be provided to rescue and tactical aircrews to insure clear understanding of combat recovery tactics by all concerned.

(PAUSE)

While it is realized that there are established channels for requesting improved and additional equipment, our inability to meet combat recovery requirements in SE Asia demands that extraordinary measures be taken to correct deficiencies in recovery aircraft and associated equipment.

(PAUSE)

We recommend that an Air Force level project be established to develop an improved combat aircrew recovery system, as a distinct mission of the Air Rescue Service. Action should be expedited, and this project must be provided with the necessary authority, priority and means.

(PAUSE)

We also recommend that:

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SLIDE  
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1. The Systems Command be directed to rephase and expedite the development of air-to-air refueling for the HC-130 and HH-3. A minimum of 6 HC-130s and 11 HH-3s, in the air refueled configuration, to be operational in SEA by 1 July 1966.

2. The delivery of the 32 HH-3 aircraft for SEA be accelerated, with the last aircraft to be in place not later than December 1966.

3. Utilizing minuteman technology and Big Safari <sup>TYPE</sup> priorities, direct AFLC to expedite development and procurement of a new personnel survivor radio which combines the beacon features of the URT-21 and the voice capability of the URC-10. This radio should be rugged, and small enough to be carried securely on the crewmember when ejection or bailout is required.

4. That direction be given, and manpower be provided, for a <sup>JOINT</sup> ~~test~~ test detachment at Eglin <sup>4475</sup> ~~for~~ for the evaluation of aircrew recovery techniques and recovery equipment. Each survivor item would be tested under simulated combat conditions for suitability prior to shipment to the field. This will minimize problems such as we've encountered with the pen gun flares and strobe lights. <sub>74c</sub>

5. That a decision be made to provide suppression armament for the HH-3 crews. There are several lightweight automatic weapons readily available which would be suitable for this purpose.

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6. That the Air Rescue Service projected requirements study, presented to your staff in June of this year, be used as a basic guide. This will assure a balanced force and a complete system that will be capable of meeting the rescue and recovery requirements as we see them at this time.

SLIDE  
40

→ FOR THE FUTURE, the project office should also be charged with establishing the parameters for a rotary wing or VTOL aircraft. It should be specifically designed and built for the combat recovery mission and should be fully compatible with the tactical forces.

FINALLY, combat aircrew recovery equipment must keep pace with tactical requirements and must be developed concurrently with new tactical systems. To this end, we are consulting with the manufacturers of Aircraft Weapons Systems to evaluate proposals for potential recovery vehicles. We will season and temper their recommendations with our experience.

IN CONCLUSION, the near term requirements are clear and urgent. In the long term, we must very carefully consider and evaluate the proposals for specific systems to meet future combat recovery requirements.

Sir, this completes the presentation.

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HEADQUARTERS OF THE AIR FORCE  
HQ AEROSPACE RESCUE & RECOVERY SERVICE  
SCOTT AIR FORCE BASE, ILLINOIS 62225

SLIDE #1

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Prescribed 29 MAR 67  
By Gen Brooks  
To Com CERS.

Slide 1

The

MY BRIEFING TODAY IS DIRECTED TO SOUTHEAST ASIA

#13

COMBAT AIRCREW RECOVERY, PARTICULARLY TO THE  
PROBLEMS ASSOCIATED WITH THE PHASE-IN OF THE  
HC-130P/HH-3E TEAM FOR GULF OF TONKIN OPERATIONS  
AND THE PHASE-OUT OF THE HU-16.

SLIDE #2

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Date

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AS YOU KNOW, OUR PRIMARY BASE FOR GULF OF TONKIN  
OPERATIONS IS AT DANANG. THE 37th SQUADRON WAS  
ORGANIZED AT DANANG IN JANUARY 1966 AND BECAME  
OPERATIONAL IN FISCAL 4/66. THE SQUADRON WAS PROGRAMMED  
TO PHASE OUT IN FISCAL 3/67, BUT IT BECAME OBVIOUS, DUE  
TO SLIPPAGE IN THE DEVELOPMENT OF THE HH-3 REFUELING  
PROBE, THAT THE HC-130P/HH-3 TEAM WOULD NOT BE  
OPERATIONAL IN TIME TO REPLACE THE HU-16 FOR TONKIN  
RECOVERY OPERATIONS. ACTION WAS TAKEN TO RETAIN THE  
37th SQUADRON'S HU-16s FOR AN ADDITIONAL QUARTER TO  
PHASE OUT BY END JUNE OF THIS YEAR. HOWEVER, PCS  
MANNING WAS NOT FEASIBLE FOR ONLY ONE ADDITIONAL  
QUARTER. THIS WILL RESULT IN PERSONNEL ROTATIONS IN  
APRIL THROUGH JUNE WITHOUT REPLACEMENT EXCEPT BY  
TDY PERSONNEL.

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ATCH 5

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TO PROVIDE A BACKUP CAPABILITY, ACTION WAS TAKEN  
TO INCREASE THE FLYING HOUR PROGRAM AND MANNING  
AUTHORIZATIONS OF THE 31st AND 33d SQUADRONS THROUGH  
FISCAL 4/67. IT WAS ANTICIPATED THAT THESE ACTIONS WOULD  
PROVIDE SUFFICIENT CAPABILITY TO SUPPLEMENT THE  
PHASE-IN OF THE HC-130/H-3 TEAM. PHASE-OUT OF THE  
HU-16 FOR SEASIA OPERATIONS WAS EXPECTED BY THE END  
OF JUNE, 1967

GEN  
HU-16

ALTHOUGH A GRADUAL PHASE-IN OF HH-3Es IS CURRENTLY  
TAKING PLACE AT DANANG, THE PROGRAM IS SERIOUSLY BEHIND  
SCHEDULE. PROBE DEVELOPMENT PROBLEMS AND PRODUCTION  
SCHEDULE DELAYS LIMITED THE 48th SQUADRON REFUELING  
TRAINING WHICH WAS SCHEDULED TO BEGIN IN JANUARY OF THIS  
YEAR. IN ADDITION, UNPROGRAMMED LOSSES AND LACK OF ATTRITION  
AIRCRAFT HAVE SERIOUSLY IMPACTED ON THE PLANNED PHASE-IN.  
AS A RESULT, THE FORECAST OF ACTUAL POSSESSED H-3  
AIRCRAFT AT DANANG IS AS REFLECTED ON THIS SLIDE. (PAUSE)

MAT  
HH-3E  
Support

Slide 3

SLIDE # 3

As indicated in the third item on the previous slide,  
and ALSO IMPACTING ON OUR PLANNED ACTIONS IN SEASIA IS  
THE LACK OF A SUITABLE BED DOWN BASE FOR THE 11 HC-130Ps.

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3rd  
HC-130  
Berkman

SINCE DECEMBER OF 1965 WHEN RESCUE FIRST PROGRAMMED  
11 HC-130s TO ACCOMPLISH THE COMMAND CONTROL AND  
REFUELING FUNCTION IN SEASIA/18 SEPARATE PROPOSALS,  
COUNTER-PROPOSALS, OR DECISIONS HAVE BEEN MADE  
AFFECTING THE BED DOWN OF THESE AIRCRAFT.

Slide 4

SLIDE #4

THE AGENCIES INVOLVED AND THE NUMBER OF SEPARATE  
ACTIONS ARE SHOWN ON THIS SLIDE.

MAT  
GEN  
MSB

PROBABLY THE MOST IMPORTANT IMPACT ON BED DOWN PLANS  
WAS THE CINCPACAF DECISION WHICH ELIMINATED THE PLANNED  
C-130 MOB IN SEASIA. LATER, I WILL DISCUSS THE MOB PROBLEM  
IN GREATER DETAIL; HOWEVER, FIRST, I WOULD LIKE TO  
ADDRESS OUR OBJECTIVE AND OUTLINE THE ACTIONS WHICH  
ARE NECESSARY TO ACHIEVE THAT OBJECTIVE. (PAUSE)

5  
Slide

SLIDE #5

THE CONCEPT OF OPERATIONS FOR THE HC-130P/HH-3E  
TEAM IS PORTRAYED ON THIS CHART.

Slide #6

3

6  
Slide

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## SLIDE #6

TO REACH A DESIGNATED LOITER AREA BY FIRST LIGHT, AN HH-3E WILL DEPART DANANG AT APPROXIMATELY 0400 EACH DAY ON A 5 1/2 HOUR FLIGHT PLAN AGAINST 6 1/2 HOURS FUEL ON BOARD. THE TRIANGULAR COURSE DISPLAYED HERE IS A TYPICAL TRACK. UPON REACHING THE NORTHERNMOST POINT OF THE TRACK, THE AIRCRAFT ENTERS THE LOITER MODE, ORBITING APPROXIMATELY 30 MINUTES AT THIS POINT THEN PROCEEDING SOUTHWESTERLY, STILL IN THE LOITER MODE, REMAINING APPROXIMATELY 30 MILES OFF SHORE. NAVIGATION WILL BE BY DOPPLER AND TACAN. INFLIGHT REFUELING WILL NOT BE REQUIRED OR PLANNED UNLESS THE H-3 IS DIVERTED ON AN EXTENDED RECOVERY MISSION. TO PROVIDE COMMAND CONTROL, AN HC-130 WILL ALSO BE ORBITING AT RANDOM IN THE GULF OF TONKIN. A SECOND HH-3 WILL DEPART DANANG FOUR HOURS LATER WITH A THIRD AND FOURTH DEPARTING FOUR AND THREE HOURS LATER, RESPECTIVELY. THIS STREAM OF H-3s WILL PROVIDE CONTINUOUS ORBITAL COVERAGE IN THE GULF FROM APPROXIMATELY 0600 TO 1800 EACH DAY.

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IN ADDITION TO THE CROWN AIRCRAFT ORBITING IN THE GULF OF TONKIN, AN HC-130P WILL BE MAINTAINED ON ALERT AT DANANG TO PROVIDE BACKUP REFUELING CAPABILITY AND WILL BE SCRAMBLED AS SOON AS AN INCIDENT OCCURS, TO REFUEL THE HH-3, IF REQUIRED. THIS WILL PERMIT THE CROWN AIRCRAFT TO REMAIN ON STATION AS THE COMMAND CONTROL ELEMENT, HOWEVER, IF EMERGENCY REFUELING IS NECESSARY PRIOR TO THE ARRIVAL OF THE REFUELER, THE CROWN AIRCRAFT WILL DESCEND, REFUEL THE HH-3, AND RETURN TO ORBIT TO COORDINATE THE RECOVERY EFFORT.

THIS CONCEPT DOES NOT PROVIDE FOR ROUTINE PENETRATION OF THE LAND MASS. IF AN INCIDENT OCCURS ON THE LAND MASS WHEREIN PENETRATION IS FEASIBLE AS DETERMINED BY 7 AF, IT WILL BE NECESSARY TO FORM A TASK FORCE OF TWO HH-3s, OR AN HH-3 AND A NAVY SH-3, WITH AN ESCORT OF A-1s TO PRECEDE THE HELICOPTERS TO STERILIZE THE OBJECTIVE AREA, THIS WOULD BE COORDINATED BY THE CROWN CREW AS DIRECTED BY 3d GROUP AND 7 AF. IN THE WESTERN AREA, THE EXISTING

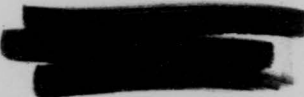
[REDACTED]

KING SPACE.

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~~WOLFE PETERS~~  
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REQUIREMENT UNTIL THE HH-53Bs ARE FULLY OPERATIONAL.  
WE ANTICIPATE REFUELING THE HH-53 AT 10,000 FEET AND  
ABOVE, WHICH EFFECTIVELY REMOVES BOTH AIRCRAFT  
FROM THE SMALL ARMS ENVIRONMENT. WHEN THE HH-53s  
BECOME FULLY OPERATIONAL, WE HAVE PROPOSED THAT  
THE HH-3 DETACHMENT BE MOVED TO NAKHOM PHANOM,  
WITH ITS PRIMARY MISSION TO BE RECOVERY IN ROUTE  
PACKAGES III AND IV IN THE SOUTH CENTRAL SECTOR OF  
NORTH VIETNAM, AND ALSO IN THE PANHANDLE OF LAOS.

7  
Slide

SLIDE #7

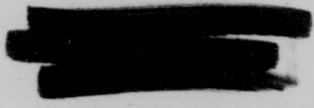
CONTINUOUS DAYLIGHT COVERAGE BY THE HH-3s EQUATES  
TO 22 FLYING HOURS PER DAY FOR THE HH-3 UNIT AT DANANG.  
THIS FURTHER RELATES TO 660 HOURS REQUIRED PER MONTH  
WHICH, IN TURN, SUPPORTS OUR STATED POSTURE OF 14  
AIRCRAFT AT A 50-HOUR PER MONTH FLYING PROGRAM TO  
PROVIDE THIS CAPABILITY.

8  
Slide

SLIDE #8 (picture)

THE TESTED FLIGHT ENVELOPE OF THE HH-3E INCLUDED  
REFUELING OPERATIONS FROM 2000 TO 10,000 FEET; HOWEVER,  
THE ALTITUDES BETWEEN 8 AND 10,000 FEET ARE MARGINAL

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REQUIREMENT UNTIL THE HH-53Bs ARE FULLY OPERATIONAL.  
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DUE TO THE LOW AIRSPEEDS REQUIRED OF THE HC-130.  
NORMALLY, REFUELING WILL TAKE PLACE AT 5000 MSL;  
HOWEVER, IF CLOUD COVER IS A FACTOR, REFUELING CAN  
BE ACCOMPLISHED WITHOUT DIFFICULTY UP TO 8000 FEET  
AND DOWN TO 500 FEET ABOVE THE WATER. BEARING IN  
MIND THAT AN HU-16 LANDING UNDER A 500 FOOT CEILING  
IS A CALCULATED RISK DUE TO AN INABILITY TO EVALUATE  
THE SEA, THE H-3 CAN EFFECTIVELY OPERATE IN ANY  
WEATHER CONDITIONS THAT THE HU-16 CAN. ALTHOUGH  
THERE MAY BE SITUATIONS WHEN AN EXTENDED MISSION  
IS REQUIRED IN THE NORTHERN GULF AND CEILINGS LESS  
THAN 500 FEET THROUGHOUT THE AREA PRECLUDE  
REFUELING, THIS WOULD ALSO BE A RISKY SITUATION FOR  
THE HU-16. IN THESE CASES, WHERE A SERIES OF  
CIRCUMSTANCES BUILD UP AGAINST US, THE SURVIVOR  
WILL SIMPLY HAVE TO WAIT FOR BETTER CONDITIONS OR  
SURFACE RECOVERY. ///

IN THE PHASE III TESTING PROGRAM OF THE HC-130P/HH-3E  
TEAM, ONE OF THE TEST OBJECTIVES WAS TO QUALIFY  
RESCUE PERSONNEL IN REFUELING OPERATIONS. TWO HIGHLY

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QUALIFIED RESCUE PILOTS WERE ASSIGNED TO PROVIDE  
PROGRAM CONTINUITY, DOCUMENT PROCEDURES, AND ALSO  
TO PROVIDE THE EXPERIENCE AND KNOW-HOW TO PUT THE  
SYSTEM INTO OPERATIONAL USE IN SEASIA. / PHASE III  
WAS COMPLETED ON 13 JANUARY 1967, AND A 2200 NM MISSION  
WAS DEMONSTRATED BY THE HH-3E USING AIR REFUELING  
TECHNIQUES. / THE 2 FLIGHT EXAMINERS WERE FULLY  
QUALIFIED DURING THIS PHASE. / THE HH-3 FLIGHT EXAMINER  
IS CURRENTLY IN PLACE AT THE 3d GROUP AND THE HC-130P  
INSTRUCTOR IS BEING PLACED ON TDY TO THE 3d GROUP IN  
EARLY APRIL TO DIRECT THE INITIAL HC-130 REFUELING  
OPERATIONS. AS A RESULT OF THE TEST PROGRAM, ARRS  
MANUAL 55-4 WAS PUBLISHED IN EARLY FEBRUARY WHICH  
THOROUGHLY DETAILS OPERATIONAL REFUELING PROCEDURES.

*Safety  
ASU-124*

ALTHOUGH THIS CONCEPT HAS BEEN BRIEFED TO THE  
COMMANDER, 3d GROUP, AND HAS BEEN THE SUBJECT OF  
MUCH CORRESPONDENCE, NO SINGLE FORMALIZED DOCUMENT  
HAS BEEN PUBLISHED WHICH PROVIDES THE DETAIL DESCRIBED  
IN THIS BRIEFING. WE, THEREFORE, PLAN TO PUBLISH A

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FORMAL CONCEPT OF OPERATIONS AND A SERVICE TEST ✓  
PLAN BY 10 APRIL. / ON OR ABOUT 15 APRIL, WE WILL CONVENE  
A CONFERENCE OF THE COMMANDERS OF THE UNITS WHICH  
WILL BE INVOLVED DURING THE TRANSITION. / THIS CONFERENCE  
WILL INCLUDE THE COMMANDERS OF PARRC, 3d GROUP, 31st,  
33d, 36th, 37th, AND 39th RESCUE AND RECOVERY SQUADRONS. /  
THE CONCEPT OF OPERATIONS AND THE IN-COUNTRY SERVICE  
TEST PLAN WILL BE REVIEWED AND THE SUPPORT REQUIRED  
DURING AND AFTER THE TEST PERIOD WILL BE DEFINED.

SLIDE #9

9.  
SLIDE  
THE IN-COUNTRY SERVICE TEST WILL BE CONDUCTED AS  
SOON AS POSSIBLE AFTER ARRIVAL OF THE INITIAL CONTINGENT  
OF TRAINED AIRCREWS AND EQUIPPED AIRCRAFT. THE  
ESTIMATED DATE OF THIS INITIAL CAPABILITY IS 20 APRIL.  
ON THAT DATE, THERE WILL BE 8 HC-130P AIRCRAFT AND  
7 CREWS IN PLACE WITH 3 REFUELING-EQUIPPED HH-3Es  
AND 4 QUALIFIED CREWS. THE SERVICE TEST IS PROPOSED  
TO START ON 1 MAY FOR A MAXIMUM OF 30 DAYS WITH A GOAL  
OF EARLIER COMPLETION IF POSSIBLE. / IT WILL BE NECESSARY  
TO MAINTAIN A FULL HU-16 CAPABILITY DURING THIS PERIOD;

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THE COMMANDER, 3d GROUP, PLANS TO RELIEVE THE  
HU 16 OF THE COMMAND CONTROL RESPONSIBILITY,  
ASSUMING THIS FUNCTION WITH THE HC-130 CROWN AIRCRAFT  
BY 30 APRIL. / THIS WILL REDUCE THE NUMBER OF HU-16  
HOURS REQUIRED FROM 550 PER MONTH\* TO 300 DURING MAY.  
THE HU-16 WILL BE MAINTAINED ON ALERT AT DANANG  
DURING NORMAL OPERATIONS AND FLOWN ON AIRBORNE  
ALERT ONLY DURING PEAK STRIKE PERIODS IN NORTH  
VIETNAM. /

MISSION PROFILES WILL SIMULATE THOSE PLANNED  
FOR TONKIN OPERATIONS AND ALL THE ELEMENTS OF THE  
OPERATIONAL ENVIRONMENT THAT CAN BE SIMULATED WILL  
BE INJECTED INTO THE TEST PROGRAM TO INSURE REALISM. /  
DIVERSIONS TO A SIMULATED RECOVERY AREA WILL BE  
DIRECTED BY THE TEST DIRECTOR WITH ACTUAL SCRAMBLE  
OF THE BACKUP HC-130 / JOIN-UP PROCEDURES AND ACTUAL  
REFUELING OPERATIONS WILL BE CONDUCTED / WHEN THE  
SERVICE TEST IS CONCLUDED, / LESSONS LEARNED WILL BE  
TRANSLATED INTO STANDING OPERATING PROCEDURES AND  
ROUTINE GULF OF TONKIN HC-130/HH-3 OPERATIONS WILL  
COMMENCE.

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THE FOLLOWING CHART SHOWS THE PHASE-IN OF  
AIRCRAFT AND QUALIFIED AIRCREWS.

10  
Slide

SLIDE #10

THESE ARE ALL BEING PROVIDED FROM COMUS AND DO  
NOT INCLUDE ANY CREWS TO BE TRAINED IN-COUNTRY.

THE MANNING AND EQUIPPING OF THE 39th SQUADRON  
IS PROCEEDING ACCORDING TO PROGRAM. NO PROBLEMS  
ARE ANTICIPATED IN THIS AREA.

CPS  
Training

THE HH-3E AIRCREW MANNING OF THE 37th SQUADRON  
AT DANANG HAS BEEN DELAYED BECAUSE OF LACK OF A  
REFUELING-EQUIPPED TRAINER AT EGLIN. HOWEVER, THIS  
HAS BEEN OFFSET BY A SHORTAGE OF HH-3E AIRFRAMES.  
IN JUNE, THERE IS SUBSTANTIAL IMPROVEMENT IN BOTH  
AIRFRAMES AND AIRCREWS WITH SUFFICIENT DEPTH TO  
ABSORB A SUBSTANTIAL MISSION LOAD. ALTHOUGH THIS  
CHART SHOWS 5 HH-3Es AVAILABLE BY END APRIL, ONLY  
4 WILL BE REFUELING-EQUIPPED. THE PHASE-IN SHOWN  
DOES NOT CONSIDER THE DIVERSION OF H-3 AIRCRAFT FOR  
THE PARIS AIR SHOW. THE SIKORSKY MODIFICATION TEAM

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HH-3E  
MCD  
IN SER

WILL DEPLOY SHORTLY TO BANGKOK TO MODIFY THE H-3s  
CURRENTLY IN SEASIA. SIKORSKY AIRCRAFT ESTIMATES THE  
TEAM IN PLACE AND READY BY 15 APRIL WITH A CAPABILITY  
TO MODIFY 2 AIRCRAFT EACH 30 CALENDAR DAYS. BASED  
ON THESE ESTIMATES, THERE WILL BE AN AVERAGE OF 7  
EQUIPPED H-3s AT DANANG IN MAY AND 9 IN JUNE, REMAINING  
AT THAT LEVEL UNTIL ATTRITION AIRCRAFT ARE RECEIVED.  
AN ADDITIONAL H-3 MAY BE GAINED BUT DELIVERY INFORMATION  
IS NOT YET AVAILABLE. (THIS IS THE HH-3 THAT WAS DAMAGED  
IN DANANG HARBOR IN JANUARY AFTER BEING BLOWN ASHORE  
FOLLOWING A PRECAUTIONARY LANDING DUE TO TRANSMISSION  
FAILURE.) THIS AIRCRAFT WAS PLACED IN REPAIR AT NORTH  
ISLAND NAVAL AIR STATION, SAN DIEGO, BUT THE REPAIR  
HAS BEEN DETERMINED TO BE BEYOND THE CAPABILITY OF  
THAT FACILITY. WRAMA HAS BEEN INFORMED AND REQUESTED  
TO TAKE ACTION TO HAVE THE AIRCRAFT AIRLIFTED TO  
SIKORSKY AIRCRAFT FOR REBUILDING. BEST ESTIMATES FOR  
RETURN OF THIS AIRCRAFT TO ACTIVE USE IS 6 MONTHS AFTER  
RECEIPT BY SIKORSKY. //

IN EARLY FEBRUARY WE ADVISED YOUR HEADQUARTERS  
OF THE REQUIREMENT FOR REPROGRAMMING HH-3 ATTRITION

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AIRCRAFT AND ACTION WAS TAKEN TO FORWARD SUPPORTING RECOMMENDATIONS TO AIR FORCE. WE HAVE BEEN ADVISED VIA TELECON THAT GENERAL SWANCUTT HAS THE PROBLEM UNDER CONSIDERATION AT THE PRESENT TIME WITH A DECISION EXPECTED MOMENTARILY. IF THIS COMES TO PASS, A MUCH ROSIER PICTURE WILL EMERGE. ON THE OTHER HAND, THE PICTURE CAN LOOK MUCH DIMMER IN THE MAY AND JUNE PERIOD IF 2 HH-3s ARE DIVERTED FROM THE PROGRAM TO PARTICIPATE IN THE PARIS AIR SHOW, AS HAS BEEN PROPOSED.

WE SHOW ZERO REFUELING QUALIFIED CREWS FOR THE HH 3 DETACHMENT AT UDORN FOR REASONS PREVIOUSLY EXPLAINED. THE LAST LINE SHOWS THE LATEST ESTIMATED PHASE-IN OF THE HH-53 DETACHMENT. MANNING FOR THE HH-53 PROGRAM IS ON SCHEDULE.

Line 3  
at  
UDorn

AS TO OUR CAPABILITY TO SUPPORT HU-16 OPERATIONS DURING THE SERVICE TEST PERIOD AND BEYOND, IF REQUIRED, THE PERSONNEL PICTURE APPEARS FAVORABLE.

SLIDE #11

IT WILL BE NECESSARY TO AUGMENT THE DECREASING RESOURCES OF THE 37th SQUADRON'S HU-16 ELEMENT UNTIL

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THE HH-3 AIRCRAFT ARE IN PHASE-IN PROGRAM. TDY PERSONNEL ARE BEING FURNISHED TO BRING THE 31st AND 33d SQUADRONS UP TO 100% MANNING AND RESCUE AND MAC PERSONNEL STAFFS ARE WORKING TO PROVIDE 100% AIRCREW AND GROUND SUPPORT PCS MANNING BY THE END OF JUNE. AIR FORCE HAS AUTHORIZED A 65 HOUR PROGRAM FOR BOTH THESE UNITS THROUGH FISCAL 4/68, WHICH WILL PROVIDE AN ADDITIONAL 2.5 AIRCREWS AND 32 GROUND SUPPORT PERSONNEL. AGAINST THE 14 HU-16 AIRCREWS AUTHORIZED, THE NUMBER OF AIRCREWS REQUIRED IN DIRECT SUPPORT OF SEASIA WILL BE 6 IN MAY, REDUCING TO 4 IN JUNE AND CONTINUING AT THAT LEVEL UNTIL COMPLETE PHASE-OUT. NOTE THAT ON THE LAST LINE OF THE CHART ADDITIONAL CREWS CAN BE MADE UP IN THE MONTHS INDICATED BY TDY OF INDIVIDUALS BETWEEN THE SQUADRONS. THE CAPABILITIES OF THE 31st AND 33d SQUADRONS TO SUPPORT THIS REQUIREMENT AGAINST THE PHASE-IN OF THE H-3s ARE SHOWN HERE.

SLIDE #12

THE HC-130 IS NOT INCLUDED SINCE THE CAPABILITY DURING THIS PERIOD IS FAR IN EXCESS OF THE REQUIREMENT.

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THE TWO HORIZONTAL LINES AT THE TOP OF THE CHART REFLECT THE CURRENT LEVEL OF HU-16 SUPPORT REQUIRED UNDER THE EXISTING CONCEPT AND ALSO TO THE HH-3E FLYING HOURS REQUIRED TO IMPLEMENT THE NEW CONCEPT.

DURING MAY, THE HH-3 AIRCRAFT WILL HAVE 200 HOURS OF CAPABILITY TO PERFORM THE SERVICE TEST AND/OR TO MEET OTHER MISSION REQUIREMENTS. / THE 300-HOUR HU-16 REQUIREMENT CAN BE MET BY THE COMBINED 695-HOUR CAPABILITY COMPUTED FOR THE 31st, 33d, AND 37th SQUADRONS, WITHOUT DEGRADATION OF THEIR MISSION. / ANTICIPATING 2 PRODUCTION HH-3s IN EARLY MAY AND 2 IN-COUNTRY MODIFIED HH-3s BY LATE MAY, 400 HOURS OF HH-3 TIME CAN BE GENERATED WHICH WILL REQUIRE ONLY 180 HOURS OF HU-16 TIME OF THE 585 AVAILABLE. IF A LARGE SCALE MISSION DEVELOPS IN THE 31st OR 33d AREAS, HC-130 AUGMENTATION CAN BE PROVIDED FROM THE 36th AND 79th SQUADRONS. THE RED DIAMOND MARKER RELATES TO THE IMPACT OF USING HH-3s FOR THE PARIS AIR SHOW. IF THIS CONTINUES AS A REQUIREMENT, THE REFUELABLE HH-3 HOURS WILL BE REDUCED TO 150 HOURS IN MAY AND TO 300 HOURS IN JUNE, WITH 250 HU-16 HOURS REQUIRED IN JUNE

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INSTEAD OF THE 180 WHICH WOULD OTHERWISE HAVE BEEN,  
REQUIRED.

SUPPORT WILL BE REQUIRED TO CONTINUE AT THIS LEVEL  
UNTIL HH-3E ATTRITION AIRCRAFT ARE PROVIDED. IF, FOR  
EXAMPLE, IN THE JULY COLUMN, 2 REPLACEMENT HH-3s  
SHOULD BE MADE AVAILABLE, THE HU-16 HOURS WOULD BE  
DECREASED TO LESS THAN 100 HOURS PER MONTH AND  
ELIMINATED WHEN THE SECOND PAIR OF ATTRITION HH-3s  
IS RECEIVED. THE FLYING HOURS FOR THE 14th AIRCRAFT  
ARE NOT SHOWN ON THE LAST BAR GRAPH. THIS IS THE  
AIRCRAFT AT NORTH ISLAND WHICH WILL BE SHIPPED TO  
SIKORSKY AIRCRAFT FOR REBUILDING.

TO SUMMARIZE THIS CHART AND THE ONE IMMEDIATELY  
PRIOR TO THIS, RESCUE EXPECTS TO HAVE THE HU-16  
RESOURCES, BOTH PERSONNEL AND AIRCRAFT, TO MEET ALL  
KNOWN REQUIREMENTS IN MAY, JUNE, AND THEREAFTER,  
PROVIDING H-3 AIRCRAFT ARE RECEIVED AS PROGRAMMED.  
UPON RECEIPT OF THE 4 ATTRITION AIRCRAFT, THE HU-16  
WILL BE ELIMINATED FROM THE SEASIA TDY REQUIREMENT  
AND THE TOTAL MISSION ASSUMED BY THE HC-130/H-3 TEAM.  
WITH AIR STAFF SUPPORT, THIS CAN BE ACCOMPLISHED BY  
30 SEPTEMBER, AT THE LATEST.

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SLIDE #13 (BLANK)

AS POINTED OUT EARLIER, THE SELECTION OF A BED DOWN LOCATION FOR THE HC-130 FORCE HAS BEEN IN A CONSTANT STATE OF FLUX OVER THE PAST YEAR AND A HALF. THE MAJOR PROBLEM HAS BEEN THE SELECTION OF A MAIN OPERATING BASE. THE ORIGINAL PROPOSAL WAS TO FORM TWO UNITS OF HC-130s -- 6 AT UDORN AND 5 AT DANANG. NEITHER OF THESE BASES CAN PROVIDE THE REQUIRED HEAVY MAINTENANCE SUPPORT OR ADEQUATE RAMP SPACE. AS A RESULT, THESE ALTERNATE BASES IN SEASIA WERE, AT ONE TIME OR ANOTHER, CONSIDERED FOR SELECTION AS AN MOB. (PAUSE)

AAT  
ASB  
For  
HC-130

SLIDE #14

U TAPAO

NAM PHONG

CAM RAHN BAY

DON MUANG

TUY HOA

AGAIN, NONE OF THESE BASES CAN PROVIDE THE NECESSARY HEAVY MAINTENANCE SUPPORT THAT IS REQUIRED OF AN MOB. A CINCPACAF MESSAGE EARLIER THIS MONTH STATES THAT

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AN MOB IN SEASIA IS NOT AVAILABLE AND THESE BASES OUTSIDE  
OF SEASIA ARE NOW UNDER CONSIDERATION AS MOB<sub>s</sub>.

SLIDE #15

CLARK AB

CCK TAIWAN

TACHIKAWA AB

NAHA

CURRENTLY, THE FIRST 3 BASES SHOWN ARE SERVING AS MOB<sub>s</sub>  
FOR TAC C-130<sub>s</sub>.

SLIDE #15A

THIS CHART DEPICTS THE ROUND TRIP FLYING HOURS  
THAT WOULD BE REQUIRED IN DEPLOYING THE AIRCRAFT  
BETWEEN THE FOB AT TUY HOA AND THE 4 MOB BASES UNDER  
CONSIDERATION. FROM A PURE FLYING HOUR CONSIDERATION,  
ONLY CCK AND CLARK APPEAR ATTRACTIVE AS AN MOB.  
CLARK OFFERS A FURTHER ADVANTAGE IN THAT ROTATIONAL  
HC-130<sub>s</sub> BETWEEN CLARK AND RVN CAN EASILY BE UTILIZED  
TO MEET SOME OF THE DUCKBUTT REQUIREMENTS ALONG  
THIS ROUTE. WITH TUY HOA AS THE FOB AND ONE OF THESE  
OTHER BASES SERVING AS THE MOB FOR ALL 11 AIRCRAFT, THE

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SLIDE #16

MANPOWER ALIGNMENT WILL BE AS DEPICTED ON THIS CHART.  
MANNING AT THE FOB INCLUDES MAINTENANCE TURN-AROUND  
CAPABILITY.

AS YOU ARE AWARE, RESCUE SUBMITTED A PROPOSAL TO  
MAC TO CONVERT THE 31st SQUADRON AT CLARK AB TO 4  
HC-130s WITH 7 HC-130s ASSIGNED TO THE 39th SQUADRON AT  
TUY HOA AS AN FOB. UNDER THIS PROPOSAL, ALL 11 AIRCRAFT  
WOULD BE UNDER THE CONTROL OF THE 3d GROUP, AND THE  
31st SQUADRON WOULD BE TASKED TO PROVIDE ALL HC-130  
HEAVY MAINTENANCE AND PHASE INSPECTIONS. YOUR STAFF  
HAS ADVISED THAT TO ESTABLISH THE 31st SQUADRON AS AN  
MOB, LOGISTIC REASONS REQUIRE THAT ALL 11 AIRCRAFT BE  
ASSIGNED TO THIS SQUADRON. THIS, IN ESSENCE, WILL MAKE  
THE 39th SQUADRON AT TUY HOA AN OPERATIONAL SQUADRON,  
WHILE MAINTENANCE SUPPORT WOULD BE THE PRIMARY  
MISSION OF THE 31st SQUADRON. WE CONCUR IN THIS CONCEPT  
AND, IF APPROVED, IT WILL RESULT IN THE FOLLOWING  
ADVANTAGES TO MAC AND RESCUE:

Slide #17

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SLIDE #17

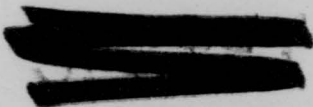
IT WILL REDUCE NONPRODUCTIVE FLYING TIME TO AN ACCEPTABLE LEVEL, THUS PROVIDING MORE PRODUCTIVE HOURS TO SEASIA SUPPORT. CURRENTLY, THE FLYING HOURS EXPENDED FOR FERRY TO MAINTENANCE FACILITIES IN JAPAN APPROXIMATE 12% OF PROGRAMMED FLYING HOURS. SOME OF THESE NONPRODUCTIVE FLYING HOURS COULD BE USED FOR ORBIT MISSIONS BY THE 31st SQUADRON WHICH WOULD BE SUPPLEMENTED BY 36th SQUADRON AIRCRAFT, AS REQUIRED, AND AS IS CURRENTLY BEING DONE ON A ROUTINE BASIS. EACH OF THE OTHER BASES CONSIDERED WILL ALSO REQUIRE MORE NONPRODUCTIVE FLYING HOURS THAN CLARK.

SECOND, IT WILL ESTABLISH A MAINTENANCE FACILITY MANNED BY PERSONNEL ON STABILIZED NORMAL TOURS OF DUTY.

THIRD, IT PROVIDES FOR A POSTWAR BED DOWN OF HC-130 AIRCRAFT IN PLACE AND OPERATIONAL AT THE CESSATION OF HOSTILITIES. IN ADDITION, IT AVOIDS THE PHASE-OUT OF 31st SQUADRON FIXED-WING AIRCRAFT TO HELICOPTERS AT THE END OF FISCAL 4/68.

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IT ALSO TAKES ADVANTAGE OF THE RECENTLY COMPLETED HC-130 NOSE DOCK AT CLARK AB. IN ADDITION, A NEW PARKING RAMP IS TO BE COMPLETED THIS MONTH. BOTH OF THESE FACILITIES COULD BE LOST TO OTHER C-130 OPERATIONS IF NOT PROGRAMMED FOR HC-130s.

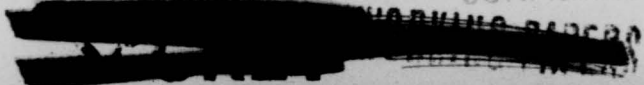
NEXT, IT RELIEVES LOGISTIC SUPPORT REQUIREMENTS IN SEASIA AND REDUCES MANPOWER REQUIREMENTS IN SEASIA THUS ALLEVIATING CRITICAL MANPOWER CEILING PROBLEMS.

WE HAVE QUERIED CINCPACAF AS TO AVAILABILITY OF CLARK AB AS WELL AS THE OTHER 3 BASES AS AN MOB AND SOLICITED THEIR RECOMMENDATIONS. AN EARLY REPLY FROM PACAF IS EXPECTED.

TO SUMMARIZE MY BRIEFING AND TO OUTLINE THE ACTIONS NECESSARY TO REACH OUR STATED OBJECTIVE IN THE SHORTEST POSSIBLE TIME PERIOD, WE MUST FIRST:

SLIDE #18

PUBLISH THE FORMAL CONCEPT OF OPERATIONS AND SERVICE TEST PLAN AS SOON AS POSSIBLE BUT NOT LATER THAN 10 APRIL. THESE TWO DOCUMENTS WILL BE ISSUED AS APPENDICES TO ARRS PROGRAMMING PLAN 582.

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NEXT, CONVENE A CONFERENCE IN THE WESTERN PACIFIC AND BRIEF THE COMMANDERS CONCERNED ON THE CONCEPT, THE SERVICE TEST PLAN, AND PROVIDE DETAILS OF THE PARTICIPATION REQUIRED OF EACH UNIT DURING THE TRANSITION PERIOD AND BEYOND.

THIRD, WE MUST BRIEF THE CREWS THOROUGHLY AND USE THE TIME BETWEEN 20 APRIL AND 1 MAY AS A GET-READY PERIOD, FOR THE SERVICE TEST.

WE MUST ALSO INSURE THAT ADEQUATE TDY PERSONNEL ARE IN PLACE AT THE 31st AND 33d SQUADRONS BY 20 APRIL TO PERMIT THESE SQUADRONS TO ASSUME THE MISSION LOAD DURING THE SERVICE TEST PERIOD AND BEYOND, IF NECESSARY.

CONCURRENTLY, WE WILL RELIEVE THE HU-16 OF THE COMMAND AND CONTROL FUNCTION IN THE GULF OF TONKIN. IN ACTUALITY, IT IS PLANNED TO ASSUME 50% OF THE MISSION LOAD BY 15 APRIL, BUILDING UP TO A COMPLETE TAKE-OVER BY THE END OF THE MONTH --

AND ON THE FIRST OF MAY START THE SERVICE TEST FOR A 30-DAY PERIOD OR LESS, DEPENDING ON RESULTS.

Slide #11

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SLIDE #19

ACTION MUST BE TAKEN WITH PACAF TO ESTABLISH A FIRM MOB AND FORMULATE PLANS FOR AN ORDERLY PHASE-IN AS SOON AS PRACTICAL.

THE SERVICE TEST WILL BE COMPLETED BY END MAY WHICH WILL PERMIT US TO PLACE THE HC-130/HH-3 TEAM IN OPERATIONAL USAGE IN THE GULF OF TONKIN.

*PER*  
*Planning*  
BY MID-JUNE, A PLAN SHOULD BE PUBLISHED FOR ESTABLISHING AND PHASING IN THE PERSONNEL AND RESOURCES NECESSARY TO MAINTAIN THE HC-130Ps.

PERSONNEL ACTIONS MUST ALSO BE TAKEN TO REPLACE THE TDY PERSONNEL AT THE 31st AND 33d SQUADRONS WITH PCS ASSIGNMENTS BY END JUNE.

*CPS*  
*HU-16*  
*Extension*  
ALSO, BY END JUNE, THE HU-16s WILL BE PHASED-OUT OF THE 37th SQUADRON. SUFFICIENT COMMAND SUPPORT AIRCRAFT WILL BE PROVIDED TO THE 31st AND 33d TO INSURE AN ADEQUATE NUMBER OF AVAILABLE AIRFRAMES AS A BACKUP FOR GULF OF TONKIN OPERATIONS THROUGHOUT THE PERIOD WHICH, AGAIN HOPEFULLY, WILL BE TERMINATED BY THE END OF SEPTEMBER.

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SLIDE #20

CONCLUSIONS

BASED ON THE FOREGOING DISCUSSION, IT IS CONCLUDED THAT:

1 IF RESCUE RECEIVES THE ADDITIONAL ATTRITION AIRCRAFT REQUESTED, THE HC-130P/HH-3E TEAM WILL BE CAPABLE OF ASSUMING THE FULL ACR MISSION IN THE GULF OF TONKIN BY 30 SEPTEMBER. A PARTIAL HU-16 REQUIREMENT AT DANANG WILL EXIST UNTIL THAT TIME.

2 IF ATTRITION AIRCRAFT ARE NOT RECEIVED DURING THIS PERIOD, THE HU-16 REQUIREMENT WILL CONTINUE UNTIL SUCH TIME AS HH-3 STRENGTH AT DANANG CAN BE BROUGHT UP TO 14 UE AIRCRAFT.

IF RESCUE HH-3s ARE TASKED TO PARTICIPATE IN THE PARIS AIR SHOW, IT WILL RESULT IN HU-16s BEING REQUIRED AT THE 300-HOUR PER MONTH LEVEL UNTIL THE HELICOPTERS ARE EVENTUALLY IN PLACE AT DANANG.

3 PRODUCTION AIRCRAFT MUST BE DELIVERED IN ACCORDANCE WITH PRESENT SCHEDULES IF THE EARLY INITIAL CAPABILITY IS TO BE ACHIEVED.

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4. AND LAST, AN MOB FOR THE HC-130Ps OF THE 39th SQUADRON MUST BE DETERMINED AT THE EARLIEST POSSIBLE DATE. THIS IS NECESSARY IN ORDER THAT TIMELY PERSONNEL AND MATERIEL PROGRAMS MAY BE IMPLEMENTED.

SLIDE #21

RECOMMENDATIONS

1. SINCE ACHIEVING OUR OBJECTIVE DEPENDS LARGELY UPON RECEIVING REPLACEMENT HH 3Es, WE RECOMMEND COMMANDER MAC'S PERSONAL ASSISTANCE IN OBTAINING APPROVAL OF THE MAC REQUEST FOR ATTRITION AIRCRAFT.

1. SECONDLY, TO AVOID ADDITIONAL DELAYS IN ACHIEVING THE HC-130/H-3 CAPABILITY IN SEASIA, WE RECOMMEND FURTHER EFFORTS TO EXEMPT RESCUE HH-3Es FROM PARTICIPATION IN THE PARIS AIR SHOW.

3. AND LAST, WE RECOMMEND THAT AN HC-130P MOB BE DETERMINED AT THE EARLIEST POSSIBLE DATE.

"OVER"

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DEPARTMENT OF THE AIR FORCE  
HQ AEROSPACE RESCUE & RECOVERY SERVICE (MAC)  
SCOTT AIR FORCE BASE, ILLINOIS 62225

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10 July 67

SLIDE # 1 COMBAT AIRCRAFT RECOVERY IS A UNIQUE AND DISTINCT MISSION OF THE UNITED STATES AIR FORCE AND MORE SPECIFICALLY AEROSPACE RESCUE AND RECOVERY SERVICE. PRIOR TO AEROSPACE RESCUE AND RECOVERY SERVICE COMMISSIONING TO SOUTH EAST ASIA, A COMBAT AIRCRAFT RECOVERY CAPABILITY WAS PRACTICALLY NON-EXISTENT. THE ONLY AEROSPACE CAPABILITY THAT EXISTED AT THAT TIME WAS PROVIDED BY EXTREMELY SHORT RANGE HH-43 LOCAL BASE RESCUE HELICOPTERS, LIMITED TO A RADIUS OF ACTION OF 75NM FROM THEIR STAGING BASES AND BY HU-16 AMERICAN AIRCRAFT WHICH PROVIDED ORBIT AND RECOVERY CAPABILITY IN THE OFF SHORE GULF OF TONKIN AREA. THESE AIRCRAFT COULD NOT PROVIDE A TRUE COMBAT AIRCRAFT RECOVERY CAPABILITY FOR THE TYPE OF TACTICAL MISSIONS BEING FLOWN IN SOUTH EAST ASIA. IN ANY RESCUE/RECOVERY MISSION, TIME FROM BAILOUT TO RECOVERY IS CRITICAL, A DOWNED CREW MEMBERS CHANCES OF SURVIVAL ARE DIRECTLY RELATED TO THE SPEED AT WHICH A RECOVERY VEHICLE COULD ARRIVE ON SCENE AND AFFECT RECOVERY. IN SOUTH EAST ASIA OPERATIONS ANALYSIS OF RECOVERY OPERATIONS EMPHASIZES THE CRITICALITY OF MINIMIZING THE TIME BETWEEN BAIL-OUT AND RECOVERY. FURTHER, THIS ANALYSIS POINTS OUT THAT THE DEGREE OF SUCCESS OF RECOVERY EFFORTS DEPENDS RAPIDLY WHEN THE TIME ELEMENT IS

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SLIDE # 2. AS CAN BE SEEN ON THIS SLIDE, DEPICTING THE LOCATION OF DOWNED AIRMEN AND SUCCESSFUL RECOVERIES, A LONG-RANGE HIGH SPEED AIRCRAFT RECOVERY AIRCRAFT OR SYSTEM CAPABLE OF PENETRATING DEEP INTO, AND SURVIVING IN HOSTILE AREAS/ENVIRONMENT IS REQUIRED, IN ORDER TO PROVIDE A TRUE COMBAT AIRCRAFT RECOVERY CAPABILITY. WITH THE INTRODUCTION OF LONG-RANGE HC-130 AIRCRAFT, AND HH-3E/HH-53B HELICOPTERS INTO THE ARRS INVENTORY, A LIMITED BUT HIGHLY EFFECTIVE COMBAT AIRCRAFT RECOVERY CAPABILITY WAS BORN. TO OVERCOME THE RANGE OF ACTION, ALTITUDE AND PAYLOAD LIMITATIONS OF THE HH-3E/HH-53B HELICOPTERS AND PROVIDE A MUCH MORE EFFECTIVE SYSTEM TO PERFORM THE RECOVERY MISSION, HQ ARRS ENVISIONED AND DEVELOPED THE CONCEPT SLIDE # 3. OF INFLIGHT REFUELING OF HELICOPTERS FOR INCREASED RANGE AND GREATER FLEXIBILITY OF OPERATIONS. SLIDE # 4. THE FEASIBILITY OF HELICOPTER INFLIGHT REFUELING WAS PROVEN ON MAY 31 1967 WHEN TWO ARRS HH-3E HELICOPTERS SUPPORTED BY FOUR RESCUE HC-130P REFUELERS FLEW 3,510NM FROM NEW YORK'S FLOYD BERRYTT NAVAL AIR STATION TO LE BOURGET FIELD PARIS FRANCE NON-STOP, REQUIRING 9 INFLIGHT REFUELINGS PER HELICOPTER ENROUTE. THIS FLIGHT WAS ACCOMPLISHED IN 30 HRS 46MIN FOR A AVERAGE GROUND SPEED OF 114 KNOTS AGAINST PREDOMINATE HEAD WINDS.

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WITH THIS NEWLY ACQUIRED LONG-RANGE CAPABILITY AND THE INTRODUCTION OF THE LONG RANGE, HEAVY LIFT HH-53B HELICOPTER IN THE ARRS INVENTORY AS OF FY 1/68, ARRS HAS DEVELOPED A CAPABILITY AND CONCEPT OF OPERATIONS TO EFFECTIVELY PERFORM THE COMBAT AIRCREW RECOVERY MISSION NOT ONLY IN SOUTH EAST ASIA BUT IN ANY OTHER GEOGRAPHICAL AREA OF THE WORLD IN SUPPORT OF CONTINGENCY OPERATIONS. TODAY I WOULD LIKE TO DISCUSS THIS CAPABILITY AND CONCEPT OF OPERATIONS IN ORDER TO PROVIDE YOU, THE USER, AN INSIGHT INTO THE NEWLY ACQUIRED ARRS CAPABILITY TO SUPPORT YOUR CONTINGENCY OPERATIONS. TO DO THIS MY BRIEFING WILL CONSIST OF THE FOLLOWING: SLIDE # 5. FIRST: AIRCRAFT CAPABILITIES, AND COMBAT CONFIGURATION. SECOND: CONCEPT OF OPERATIONS TO INCLUDE MISSION FUNCTIONS AS RELATED TO CONTINGENCY OPERATIONS IN GENERAL, AND A VIEW OF HOW THIS MISSION WOULD BE PERFORMED IN SUPPORT OF COMUSAFSO OPLAN 632 PHASE II AND PHASE III OPERATIONS. THIRD: OPERATIONS OVER/IN HOSTILE AREAS TO INCLUDE LATERAL SUPPORT FROM TACTICAL RESCORT AND RESCAP AIRCRAFT FOURTH: AN AIR FORCE TRAINING FILM "RESCUE AND YOU IN SOUTH EAST ASIA" WHICH AS OF THIS DATE HAS NOT BEEN RELEASED BY ARRS. THE SEGMENT OF THIS FILM WHICH WILL BE SHOWN TODAY DEPICTS A TYPICAL INTEGRATED COMBAT AIRCREW RECOVERY MISSION AS CURRENTLY BEING FLOWN IN SEASIA, AND WITH LITTLE DIFFICULTY YOU CAN TRANSLATE THRU

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CONCEPT INTO YOUR OPERATIONAL REQUIREMENTS. YOU WILL NOTICE IN THIS  
FILM THAT INFILIGHT REFUELING IS NOT MENTIONED. THIS IS DUE TO THE FACT  
THAT AT THE TIME THIS FILM WAS PRODUCED, INFILIGHT REFUELABLE HELICOPTERS  
WERE NOT INTRODUCED INTO THE SOUTH EAST ASIA ARRS INVENTORY, WHICH GIVES  
YOU A PRETTY FAIR IDEA OF HOW NEW THIS CAPABILITY REALLY IS. SLIDE # 6  
THE HC-130 P AIRCRAFT HAS A RANGE OF 4400 NM AND TAS 290. CARRIES A 10  
MAN CREW WHICH INCLUDES 2 PARARESCUERS. THIS AIRCRAFT IS EQUIPPED WITH  
ARMOUR PLATING PROTECTION FOR CRITICAL AIRCRAFT SYSTEMS AND 10 AIRCREW  
POSITIONS. THE AIRCRAFT CONFIGURATION IN ITS COMBAT MISSION INCLUDES:  
SLIDE 6A FULTON SURFACE-TO-AIR RECOVERY SYSTEM, THIS SYSTEM HAS NOT  
BEEN EMPLOYED IN SEASIA RECOVERY MISSION PRIMARILY BECAUSE OF THE EXTREMELY  
DENSE FORESTED/JUNGLE ENVIRONMENT WHICH WOULD INTERFERE WITH AND PRECLUDE  
SUCCESSFUL SURFACE TO AIR RECOVERY OPERATIONS. IN-FLIGHT REFUELING SYSTEM  
FOR THE HH-3E/HH-53B HELICOPTERS. ELECTRONIC HOMING, TRACKING AND COMMAND/  
CONTROL COMMUNICATIONS EQUIPMENT. TO PROVIDE NAV. ASSISTANCE TO FIGHTER  
AIRCRAFT AND PERFORM THE SEARCH LOCATION AND AIRBORNE SAC MISSION COORDINATOR  
MISSIONS. FLOATATION AND SURVIVAL AERIAL DELIVERY KITS.

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TWO INTERNAL RANGE EXTENSION/FUEL AUGMENTATION TANKS CAPACITY 1800 GALS

EACH. SLIDE 7. HH-3E HELICOPTER HAS A NORMAL RANGE OF 700 NM WITHOUT

REFUELING. THIS RANGE IS EXTENDED WITH INFILIGHT REFUELING. THE NORMAL

CRUISE SPEED IS 110-120 KTS WITH A 140 KTS DASH SPEED CAPABILITY. OPTIMUM

ALTITUDE FOR REFUELING OPERATIONS IN CONJUNCTION WITH HC-130P AIRCRAFT IS

8000' DENSITY ALTITUDE. COMBAT CONFIGURATION FOR THIS HELICOPTER IS:

ARMOR PROTECTION ON VITAL COMPONENTS AND FOR PILOT AND COPILOT. 3 M-60D

MACHINE GUNS WITH 750 ROUNDS OF AMMUNITION PER WEAPON. SELF SEALING FUEL

TANKS AND RANGE EXTENSION TANKS. AIR-TO-AIR REFUELING PROBE AND SYSTEMS.

SLIDE 7B. RESCUE HOIST EQUIPPED WITH PORRST PENETRATOR. 1 FLIGHT MECHANIC

WHO OPERATES THE RESCUE HOIST AND ASSISTS THE PARARESCUEMAN IN RECOVERY

OPERATIONS. SLIDE # 8. HH-53E HELICOPTERS NORMAL RANGE OF 625 NM WITHOUT

INFILIGHT REFUELING. THIS RANGE IS EXTENDED WITH INFILIGHT REFUELING. THE

NORMAL CRUISE SPEED IS 130-150 KTS. WITH A 170 KTS DASH SPEED CAPABILITY.

THIS HELICOPTER HAS REFUELED AT ALTITUDES UP TO 14000' DENSITY ALTITUDE

DURING CURRENT TESTS. COMBAT CONFIGURATION OF THIS AIRCRAFT IS BASICALLY

THE SAME AS THE HH-3E. HOWEVER, THIS HH-53 IS EQUIPPED WITH THREE GAU-2E

MINIOWIN IN LIEU OF THE M-60D. EACH WEAPON HAS 3000 ROUNDS OF AMMUNITION/

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RATE OF FIRE 4000 RPM. 4 CREW: FLIGHT MECHANIC WHO OPERATES THE RESCUE  
HOIST AND ASSISTS THE PARACHUTER IN RECOVERY OPERATIONS. SLIDE 9.

HH-3E/H HELICOPTERS NORMAL RANGE OF ACTION IS NM. THIS AIRCRAFT IS  
EQUIPPED WITH: THE RESCUE HOIST. FIRE SUPPRESSION KIT FOR LER AND  
IMMEDIATE AREA CAPABILITY. THIS HELICOPTER DOES NOT HAVE ANY MEDIUM-  
LONG RANGE RECOVERY CAPABILITY. DURING THOSE II OPERATIONS ITS FUNCTIONS  
WILL BE LIMITED TO LER ACTIVITIES. AT THE FORWARD OPERATING BASE IN  
THE OBJECTIVE AREA THE HELICOPTER SHOULD BE RESTRICTED TO THE LER MISSION  
THE INTEGRATION OF THE VARIOUS CAPABILITIES AVAILABLE IN THIS MIXED FORCE,  
ALLOWS A FLEXIBILITY OF OPERATIONS CAPABLE OF RESPONDING TO AND EFFECTIVELY  
PERFORMING IN MOST SEARCH, RESCUE AND COMBAT AIRCRAFT RECOVERY ENVIRONMENTS,  
DEPLOYMENT OF SAR FORCES: PRIOR TO THE DEVELOPMENT OF INFIGHT REFUELING  
CAPABILITY HH-3E HELICOPTERS HAD TO BE PARTIALLY DISASSEMBLED AND AIR LIFTED  
TO THE THEATER OF OPERATIONS. ONCE ON STATION, AN AVERAGE OF 3 DAYS WAS  
REQUIRED TO REASSEMBLE THE HELICOPTER. THEREFORE, IN ORDER TO ARRIVE  
AT THE STAGING BASE AND BECOME OPERATIONALLY READY ON 1 DAY AIRLIFT MUST  
DELIVER THESE HELICOPTERS IN PHASE BY 1-3 DAY. NOW WITH INFIGHT REFUELING  
THE HH-3E/HH-53B HELICOPTERS AND REFUELERS COULD SLIDE 11. BE DEPLOYED TO  
THE SPECIFIED STAGING BASES ON DATES, TIMES AND ROUTE COINCIDING WITH

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TACTICAL FIGHTER DEPLOYMENTS. THE HC-130P/HH-3A/HH-53B TEAMS WOULD BE FLIGHT PLANNED TO DEPART THEIR ENROUTE/CREW REST STATIONS AT SPECIFIED INTERVALS IN ORDER TO PROVIDE MAXIMUM RESCUE COVERAGE FOR DEPLOYING TACTICAL AIRCRAFT ENROUTE TO THE STAGING BASE. ON ARRIVAL ON LOCATION THESE SAR FORCES WOULD BE OPERATIONALLY READY, FOLLOWING CREW REST TO ASSUME THE ASSIGNED MISSIONS. THE HH-43B LOCAL BASE RESCUE HELICOPTER STILL REQUIRES AIREFT ON X-3 DAY IN ORDER TO ARRIVE ON STATION AND BECOME OPERATIONALLY READY TO PROVIDE LBR COVERAGE FOR IN-BOUND TACTICAL AIRCRAFT. SLIDE # 12. EMPLOYMENT OF THESE FORCES IN SUPPORT OF COMBAT OPERATIONS IS BASED ON SPECIFIC TACTICAL AIRCRAFT PENETRATION ROUTES THAT ARE ESTABLISHED BETWEEN THE STAGING BASE AND THE OBJECTIVE AREAS. OPTIMUM UTILIZATION AND EFFECTIVENESS OF SAR FORCES ARE REALIZED WHEN THESE FORCES ARE POSITIONED "IMMEDIATELY ADJACENT" TO THE OBJECTIVE AREA. BY "IMMEDIATELY ADJACENT" TO A AREA, IN REFER TO OFF-SHORE DUCKHUTTS AND/OR ESTABLISHING ORBIT POSITIONS AND/OR ABOARD OF THE POLITICAL/ GEOGRAPHICAL BOUNDARIES OF THE OBJECTIVE AREA AND ALONG THE TACTICAL AIRCRAFT PENETRATION ROUTES, AS SLIDE 12. SHOWN ON THIS SLIDE.

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HERE WE HAVE THE IDEAL SET-UP TO DEPICT THE TWO TYPICAL AERS MISSION PROFILES WHICH WITH VERY FEW MODIFICATIONS WOULD BE APPLICABLE TO SUPPORT OF MOST CONTINGENCY OPERATIONS. TO THE LEFT OF THIS SLIDE WE HAVE THE IN-LAND BAR CAPABILITY, WHICH EMPLOYS FORWARD OPERATING BASES IN FRIENDLY TERRITORY, IMMEDIATELY ADJACENT AND PROVIDING READY ACCESS TO THE OBJECTIVE HOSTILE AREA. AERS COVERAGE IS PROVIDED BY KC-130P REFUELER AIRCRAFT ORBITING AT A PREDESIGNATED POSITION OR TRACK PROVIDING NAVIGATION ASSISTANCE TO STRIKE AIRCRAFT, AND ACTING AS THE ON SCENE AIRBORNE BAR MISSION COMMANDER. THIS AIRCRAFT WILL REMAIN AIRBORNE AND ON STATION TO PROVIDE COVERAGE DURING ALL TACTICAL STRIKE OPERATIONS. DEPENDENT ON THE CURRENT DAILY REQUIREMENTS AND HELICOPTER RESOURCES AVAILABLE, HH-3E AND/OR HH-53B HELICOPTERS OPERATING IN PAIRS WILL BE PREPOSITIONED AT FORWARD OPERATING LOCATIONS TO DECREASE REACTION TIME TO THE INCIDENT AREAS. DURING PEAK STRIKE ACTIVITIES THESE HELICOPTERS MAY BE FRAGGED FROM THEIR FORWARD OPERATING LOCATIONS TO ORBIT IN SELECTED AREAS ALONG THE OBJECTIVE AREA BORDERS. THESE ORBIT MISSIONS WILL USUALLY BE CONDUCTED BY A SINGLE HELICOPTER ACCOMPANIED BY RESCORT AIRCRAFT. THE SECOND HELICOPTER WILL MAINTAIN A COCKPIT ALERT POSTURE AND SCRAMBLE WITH ADDITIONAL RESCORT AIRCRAFT TO FOLLOW THE FIRST

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HELICOPTER WHEN A RECOVERY MISSION IS INITIATED. THE ORBIT POSITIONS OR TRACKS WILL BE ESTABLISHED TO INSURE THAT THE SECOND HELICOPTER WILL NEVER BE MORE THAN 30 MINUTES BEHIND THE FIRST HELICOPTER; THE HC-130P AIRCRAFT WILL PROVIDE INFLIGHT REFUELING TO THE HELICOPTERS DURING ORBIT AND PRIOR TO PENETRATION OF AND ON THE RETURN FROM THE HOSTILE AREAS AS REQUIRED. THE OTHER MISSION REQUIRES LONG RANGE/DURATION APPLICABLE TO EXTENDED OVER WATER AREAS AND OPERATIONS OVER LAND MASSES WHERE FOLS ARE NOT AVAILABLE IMMEDIATELY ADJACENT TO THE OBJECTIVE AREAS. AGAIN IN THIS SITUATION HC-130P REFUELERS WOULD BE PROGRAMMED TO PROVIDE ORBIT, NAVIGATION ASSISTANCE AND ON SCENE AIRBORNE SAR COORDINATION, DURING ALL TACTICAL STRIKE OPERATIONS. ADDITIONALLY THE HC-130P COULD PROVIDE LIMITED AIRCREW RECOVERY CAPABILITY IN THE OFF SHORE, AREA, USING THE FULTON SURFACE TO AIR RECOVERY SYSTEM. THE HH-3E OR HH-53B HELICOPTER WOULD BE FRAGGED AND FLY PREDESIGNATED TRACKS PARALLEL TO THE OBJECTIVE AREA BOUNDARIES IN THE OFF SHORE OR FRIENDLY/NOT HOSTILE AREAS. THESE ORBITAL TRACKS WILL BE SCHEDULED TO PROVIDE COVERAGE AT THE PREDESIGNATED POSITIONS ON THE TACTICAL AIRCRAFT PENETRATION ROUTES AT PREDESIGNATED TIMES. MEETINGS FOR REFUELING WILL BE COORDINATED WITH THE HC-130P AT PREDESIGNATED POSITIONS OR AS REQUIRED TO PERFORM RECOVERY MISSIONS. NORMALLY WHEN HELICOPTERS ASSUME THIS MISSION, RECOVERY OPERATIONS ARE LIMITED TO THE OFF-SHORE AND/or

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NON-HOSTILE ENVIRONMENTS. DETERMINATION TO PROSECUTE RECOVERY MISSIONS  
OVER-HOSTILE AREAS FOR THIS TYPE MISSION COVERAGE WILL BE MADE BY THE HC-130P  
SAR MISSION COORDINATOR AFTER EVALUATING CURRENT INTELLIGENCE INFORMATION  
BELLIGERENT INTERDICTION CAPABILITY AND AVAILABILITY OF RESCORT AND RESCAP  
SUPPORT FOR THE RECOVERY OPERATION USUALLY BACK-UP RECOVERY CAPABILITY CAN  
BE PROVIDED BY SCRAMBLING THE ALERT HELICOPTER FROM THE OPERATING BASE TIME  
AND DISTANCE PERMITTING OR THROUGH US NAVAL HELICOPTERS BASED ABOARD SHIPS  
IN THE AREA. THIS PROFILE WOULD BE APPLICABLE TO PHASE III OPERATIONS IN  
COMUSAFS0 OPLAN 6320 AS CAN BE SEEN ON THIS SLIDE: THE TWO TACTICAL ROUTE  
DIAGRAMS FROM RANNEY TO THE OBJECTIVE AREAS ARE ESTABLISHED TO MAIQUITA  
AND MARACAIBO VENEZUELLA, EITHER OR BOTH OF WHICH WOULD BE USED TO CONDUCT  
INITIAL OPERATIONS. IF FOR EXAMPLE ROUTE A IS THE PRIMARY OVER LAY # 1  
STRIKE ROUTE TO THE OBJECTIVE AREA, THE HC-130P WOULD BE OPERATING ON STATION  
AT POSITION A. SINCE EMERGENCY RECOVERY FIELDS ARE DESIGNATED BETWEEN THE  
OBJECTIVE AREA AND THE STAGING BASE ONE HH-3E HELICOPTER WOULD FLY AN ORBITAL  
TRACK AS INDICATED OVERLAY # 2 HERE BETWEEN THE OBJECTIVE AREA AND THE  
EMERGENCY RECOVERY BASES. THIS PLACES THE HELICOPTERS IN A STRATEGIC POSITION  
TO COVER NOT ONLY THE DESIGNATED PENETRATION WITHDRAWAL ROUTE BUT ALSO THE  
IMMEDIATE AREA OF HIGHEST PROBABILITY OF RECOVERY REQUIREMENTS. OVERLAY # 3.

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THE SAME PROVISIONS WOULD APPLY TO ROUTE B IF THAT IS DESIGNATED THE PRIMARY ROUTE. IF BOTH ROUTES ARE EMPLOYED SIMULTANEOUSLY, A DETERMINATION WILL BE MADE AS TO WHICH ROUTE WILL RECEIVE PEAK STRIKE ACTIVITIES AND THE HELICOPTER POSITIONED ACCORDINGLY AND OPERATING UNDER THE CONTROL OF THE HC-130P AIRCRAFT POSITIONED ON THAT ROUTE. IMMEDIATE RECOVERY CAPABILITY IS STILL AVAILABLE ON THE OTHER ROUTE BY USING THE HC-130P FULTON RECOVERY SURFACE TO AIR SYSTEM, IN THE OVER WATER AREA OR BY COORDINATION BETWEEN THE TWO HC-130P TO DIVERT THE HH-3E TO THE RECOVERY AREA. HOWEVER, IT IS READILY APPARANT FROM THIS MISSION PROFILE THAT THE HH-3ES COULD NOT SUPPORT MISSIONS ALONG THE PROPOSED STRIKE ROUTES FOR ANY EXTENDED PERIOD OF TIME. EACH HH-3E IS ALLOCATED 50 HRS A MONTH FLYING TIME WHICH WOULD PROVIDE 100 HRS AVAILABILITY FOR THE ENTIRE DEPLOYMENT/EMPLOYMENT MISSION FOR THE TWO ASSIGNED HELICOPTERS. A MORE REALISTIC MISSION PROFILE AND IMPROVED CAPABILITY COULD BE PROVIDED THROUGH COORDINATED AND AUTHORIZED USE OF THE ISLAND OF CURACAO. IF THIS ISLAND WERE AVAILABLE, FOR STAGING ONE HH-3E HELICOPTERS ON A DAILY BASIS. DAILY FLYING REQUIREMENTS FOR THE HELICOPTER FORCE COULD BE KEPT TO A MINIMUM THEREBY EXTENDING THE PERIOD OF TIME THE HELICOPTERS COULD SUPPORT THIS TYPE OPERATION. AGAIN LET ME REEMPHASIS, THAT SINCE THERE IS ONLY ONE HH-3E ON SCENE, ITS PREDOMINATE MISSIONS IS OFF-SHORE RECOVERY. ANY COMMITMENT OF THIS HELICOPTER TO HOSTILE AREA RECOVERY OPERATIONS

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WILL BE AN ON SCENE DETERMINATION BY THE ON SCENE AIRBORNE SAR COMMANDER.

PRIOR TO COMMITMENT OF THE HELICOPTER TO A RECOVERY MISSION IN THE HOSTILE AREAS

THE FOLLOWING CRITERIA SHOULD BE MET: SLIDE # 14. A. ASSURANCE THAT THE

CREW MEMBER SURVIVED BAIL-OUT OR CRASH LANDING AND IS NOT CAPTURED BY BELLIGERENT

FORCES. THIS INFORMATION IS USUALLY PROVIDED BY THE DOWNED AIRCRAFT'S WING MAN

TO THE HC-130 AIRBORNE SAR MISSION COMMANDER. B. DEDICATED OR ASSIGNED

RESCUE ESCORT AIRCRAFT (RESCORT). TO SUPPRESS HOSTILE ACTIONS AGAINST THE

RECOVERY FORCE, BY BELLIGERENT GROUND FORCES, ENROUTE TO AND AT THE RECOVERY

LOCATION. C. RESCUE CAP (RESCAP) TACTICAL FIGHTERS AT THE RECOVERY LOCATION

TO PREVENT INTERDICTION/INTERFERENCE OF THE RECOVERY OPERATIONS BY BELLIGERENT

AIR FORCES AND TO ASSIST THE RESCORT AIRCRAFT IN THERIALIZING THE RECOVERY AREA.

D. BACK-UP HELICOPTER RECOVERY CAPABILITY WHEN AVAILABLE, OR DETERMINED CRITICAL

TO MISSION SUCCESS, IN THE EVENT THE LEAD HELICOPTER HAS TO ABORT THE MISSION

DUE TO MECHANICAL MALFUNCTION OR IS SHOT DOWN BY BELLIGERENT FORCES. E.

ASSURANCE OF SOME DEGREE AT MISSION SUCCESS. AS A EXAMPLE IN NORTH VIETNAM

RECOVERY HELICOPTERS WOULD NOT NORMALLY BE COMMITTED TO RECOVERY OPERATIONS IN

DENSELY POPULATED, HIGHLY DEFENDED AREAS SUCH AS THE IMMEDIATE VICINITY OF HANOI

DUE TO THE EXTREMELY MARGINAL PROBABILITY OF SUCCESS AND THE HIGH PROBABILITY

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OF LOSS OF THE HELICOPTER AND CREW. THIS ENTIRE INTEGRATED PROCEDURE USED IN  
COMBAT AIRCREW RECOVERY OPERATIONS IN HOSTILE AREAS IS CONTAINED IN THE AIR  
FORCE TRAINING FILM "RESCUE AND YOU IN SEA" WHICH I WILL SHOW NOW. YOU WILL  
NOTICE IN THIS MOVIE THAT NEITHER INFLIGHT REFUELING OR HELICOPTER ORBITS ARE MENTIONED.  
AT THE TIME THIS FILM WAS PRODUCED, THIS CAPABILITY DID NOT EXIST IN THE  
THEATER, BUT HAS BEEN INTRODUCED AND OPERATIONALLY COMMITTED TO THE BULF OF  
TONGKIN MISSION IN JUNE OF THIS YEAR. THANK YOU.

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PROJECT CORONA HARVEST
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BRIEFING

ON

AEROSPACE RESCUE AND RECOVERY SERVICE

PROJECT CORONA HARVEST  
DO NOT DESTROY

No. 0005824

Presented by Major W. L. Cranch  
to Members of Illinois State  
Chamber of Commerce, Scott AFB, Ill.,  
2 December 1963

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Date

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HQ AEROSPACE RESCUE AND RECOVERY SERVICE (MAC)  
SCOTT AIR FORCE BASE, ILLINOIS 62225

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BRIEFING

AEROSPACE RESCUE AND RECOVERY SERVICE

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GENTLEMEN,

Slide 1  
Field 00062

MY PRESENTATION WILL GIVE YOU A BRIEF OVER-VIEW OF THE AEROSPACE  
RESCUE AND RECOVERY SERVICE (ARRS) WHICH WILL INCLUDE: (S)

Slide 2  
ARRS  
ARRS

Slide 3  
Mission 00064

THE RESCUE MISSION AND TASKS; RESCUE VEHICLES; SPACE FLIGHT SUPPORT;  
A SHORT FILM OF AN ACTUAL COMBAT RESCUE MISSION; AND FINALLY THE  
RESULTS AND EFFECTIVENESS OF THE RESCUE EFFORT. (S) BASICALLY, THE  
ARRS MISSION IS TO PROVIDE A WORLD-WIDE CAPABILITY TO SEARCH FOR,  
LOCATE AND RECOVER PERSONNEL AND AEROSPACE HARDWARE IN SUPPORT OF  
USAF AND OTHER DOD AEROSPACE OPERATIONS. TWENTY-FOUR HOURS A DAY,  
365 DAYS A YEAR, RESCUE MEN AND AIRCRAFT ARE ON DUTY AROUND THE  
WORLD -- PLANNING FOR OR CONDUCTING OPERATIONS RANGING FROM COMBAT  
AIRCREW RECOVERY IN THE RICE PADDIES AND JUNGLES OF SEASIA TO THE  
SOPHISTICATED ASPECTS OF ASTRONAUT AND SPACE EQUIPMENT RECOVERY IN  
WIDE AREAS OF THE OPEN SEA. ON THE AVERAGE, THERE ARE MORE THAN  
100 RESCUE MISSIONS OF ONE KIND OR ANOTHER FLOWN EVERY 24 HOURS OVER  
A WIDE AREA OF THE GLOBE. ALL THESE MISSIONS HAVE ONE THING IN  
COMMON -- THE HIGH VALUE TRADITIONALLY PLACED ON HUMAN LIFE.  
WHILE THE BROAD CONCEPT OF SEARCH AND RESCUE IS ESSENTIALLY HUMANITARIAN,

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ITS MILITARY APPLICATION PROVIDES MANY REAL AND PRACTICAL ADVANTAGES. ALTHOUGH ARRS IS A RELATIVELY SMALL ORGANIZATION IN COMPARISON TO OTHER WORLD-WIDE COMMANDS, WE HAVE A UNIQUE MILITARY MISSION OF UNUSUAL SCOPE AND DIVERSITY. (S)

Slide 4  
Tasks 00065

THE ARRS MISSION BREAKS DOWN INTO FOUR PRIMARY TASKS: PRECAUTIONARY MISSIONS WHICH INVOLVE POSITIONING RESCUE AIRCRAFT AT STRATEGIC AIRBORNE ORBIT POINTS FOR TRANSITING JET FIGHTERS AND SINGLE ENGINE CONVENTIONAL AIRCRAFT OVER OCEANIC OR DESOLATE TERRAIN ROUTES OF FLIGHT. THESE AIRCRAFT DO NOT NORMALLY CROSS THE OCEAN WITHOUT PRECAUTIONARY RESCUE COVERAGE. ALSO, TRANSOCEANIC INTERCONTINENTAL FLIGHTS BY THE PRESIDENT OF THE UNITED STATES REQUIRE RESCUE AIRCRAFT BE AIRBORNE AND WITHIN 30 MINUTES OF HIS POSITION AT ALL TIMES. THE ALERT POSTURE OF RESCUE FORCES PROVIDES AN IMMEDIATE CAPABILITY FOR RESPONDING TO EMERGENCY MISSIONS. SOME EXAMPLES ARE: A FLIGHTER PILOT OVER WATER REPORTS HE MUST DITCH HIS AIRCRAFT; A BOMBER CREW IS REPORTED MISSING; A SMALL PRIVATE VESSEL IS LOST IN THE SOUTH PACIFIC; A USAF TRANSPORT ~~PLANE~~ <sup>PLANE</sup> SUFFERED AN ENGINE FAILURE AND REQUIRES INTERCEPT AND ESCORT BY A RESCUE AIRCRAFT; A CIVILIAN PRIVATE AIRCRAFT IS REPORTED MISSING; AND SO ON AND ON IT GOES. . . . IN THE AREA OF SPACE OPERATIONS WE HAVE AN EVER INCREASING REQUIREMENT. RESCUE HAS BEEN SUPPORTING SPACE MISSIONS SINCE THE FIRST MERCURY FLIGHT AND WE ARE NOW WORKING IN THE APOLLO

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PROGRAM. MANY OF YOU MAY RECALL THE CONTINGENCY LANDING OF GEMINI 8 BACK IN 1966 WHEN THAT SPACECRAFT MADE AN EMERGENCY RE-ENTRY IN THE WEST PACIFIC INSTEAD OF THE PLANNED WEST ATLANTIC LANDING AREA. A RESCUE AIRCRAFT REACHED THE CAPSULE JUST AS IT WAS SPLASHING DOWN, THEN QUICKLY DEPLOYED THREE PARARESCUEMEN WHO ATTACHED THE FLOTATION COLLAR. SOME 20 MINUTES AFTER SPLASH DOWN, THE SPACECRAFT WAS SECURED, AND THE WORLD KNEW THE ASTRONAUTS WERE A-O.K. OUR FOURTH AND PRIMARY TASK IS AIRCREW RECOVERY WHICH WE ARE DEEPLY INVOLVED IN SEASIA. (S)

Slide 5  
Map of locations 00066

TO PERFORM THESE TASKS WE HAVE A FORCE CONSISTING OF APPROXIMATELY 5000 PEOPLE AND <sup>259</sup>~~258~~ AIRCRAFT OF VARIOUS TYPES. THESE RESCUE FORCES ARE POSITIONED TO PROVIDE MAXIMUM CAPABILITY IN RESPONSE TO OUR GLOBAL MISSION RESPONSIBILITIES. AS SHOWN ON THIS CHART, ARRS FORCES ARE LOCATED IN THE CONTINENTAL UNITED STATES, GUAM, OKINAWA, PANAMA CANAL ZONE, ALASKA AND FOURTEEN FOREIGN COUNTRIES. (S) AN

Slide 6  
Org Structure 00336

EXTENSIVE ORGANIZATIONAL STRUCTURE IS NECESSARY TO PROVIDE COMMAND CONTROL, SUPERVISION, AND MISSION COORDINATION OF THE ASSIGNED FORCES. OUR CURRENT STRUCTURE CONSISTS OF 104 SUBORDINATE UNITS. IN ADDITION TO ARRS HEADQUARTERS HERE AT SCOTT, THERE ARE <sup>TWO WING</sup> FIVE MAJOR RESCUE AND RECOVERY CENTERS; ONE RESCUE GROUP; 17 SQUADRONS; 72 DETACHMENTS; and 9 OPERATING LOCATIONS. NOW THAT I HAVE DISCUSSED MISSION, TASKS AND ORGANIZATION, THE NEXT TOPIC IS AIRCRAFT, THEIR RECOVERY SYSTEM AND CAPABILITIES.

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Slide 7  
HC-130, 00050

THIS IS OUR LATEST FIXED WING AIRCRAFT -- THE HC-130 HERCULES. THIS TURBO JET AIRCRAFT WAS DESIGNED TO FLY AT HIGH ALTITUDES, CRUISE OVER 300 MPH, CARRY A MAXIMUM GROSS WEIGHT OF 175,000 LBS WITH A CRUISING RANGE OF 4,500 N.M. IT IS EQUIPPED WITH SPECIALIZED, SOPHISTICATED ELECTRONIC SEARCH TRACKING AND HOMING DEVICES. THE HC-130 ALSO HAS THE CAPABILITY TO REFUEL RESCUE HELICOPTERS IN FLIGHT. NOTE THE HUMP ON ITS BACK WHICH CONTAINS SENSITIVE TRACKING GEAR CAPABLE OF FIXING THE POSITION OF A SPACECRAFT DURING RE-ENTRY OR LOCATING THE POSITION OF A DOWNED FLYER IN THE JUNGLES OF SEASIA. THE HC-130 POSSESSES SPECIALIZED EQUIPMENT KNOWN AS A SURFACE-TO-AIR RECOVERY SYSTEM AND AN AIR-TO-AIR RECOVERY SYSTEM. (S)

Slide 8  
HC-130  
STAR  
00076

THE SURFACE-TO-AIR RECOVERY SYSTEM WAS DESIGNED TO ALLOW AN IN FLIGHT AIRCRAFT TO RECOVER PERSONNEL AND MATERIAL FROM THE EARTH'S SURFACE. IT CAN RECOVER A MAXIMUM OF 500 LBS (OR TWO 250 LB MEN) FROM ELEVATIONS BETWEEN SEA LEVEL AND 6000 FT. AT ELEVATIONS BETWEEN 6000 FT AND 16,000 FT IT IS RESTRICTED TO 250 LBS. VERY BRIEFLY THIS SYSTEM WORKS AS FOLLOWS: (BRIEF SYSTEM FROM SLIDE) INCIDENTALLY, THE COMMANDER ARRS, BRIG GENERAL BROOKS, AIDED IN PROVING THIS SYSTEM DURING TESTS BY PARTICIPATING IN A DUAL LIVE RECOVERY. (S)

Slide 9  
HC-130  
Air-to-Air  
00077

THE HC-130 ALSO HAS THE AIR-TO-AIR RECOVERY SYSTEM WHICH IS DESIGNED FOR MID AIR RECOVERY OF PARACHUTED OBJECTS WEIGHING 65 - 2500 LBS AT ALTITUDES BETWEEN 15,000 FT AND SEA LEVEL. RESCUE SERVICE IS CURRENTLY USING THIS SYSTEM IN CONJUNCTION WITH THE AIR WEATHER SERVICE'S AIR SAMPLING MISSION AND THE ATOMIC ENERGY COMMISSION'S AIR SAMPLING PROJECTS. THESE AIR SAMPLING PACKAGES ARE PLACED

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INTO THE ATMOSPHERE BY BALLOON FROM THE SURFACE UP TO 135,000 FT  
AND BY AN AIR LAUNCH ROCKET UP TO 330,000 FT. BOTH REQUIRE PRECISION  
TEAM WORK ON THE PART OF <sup>RESCUE</sup> ~~OUR~~ CREWS TO INSURE SUCCESSFUL AIR RECOVERY.

~~(BRIEF SYSTEM FROM THE SLIDE.)~~ (S)

Slide 10  
HH-43  
00068

THE HH-43 HELICOPTER IS USED PRIMARILY FOR LOCAL BASE RESCUE SUPPORT.  
THIS MEANS IT PROVIDES AN ALERT POSTURE AT FIGHTER BASES TO ASSIST  
IN CRASH RESCUE/FIRE SUPPRESSION OPERATIONS FROM THE RUNWAY OUT  
TO A RADIUS OF APPROXIMATELY 75 MILES. THE HH-43 IS CONFIGURED WITH  
A HOIST CABLE OVER 200 FEET WITH A DEVICE KNOWN AS A FOREST PENETRATOR  
WHICH IS ESPECIALLY DESIGNED FOR RECOVERY OF AIRCREW MEMBERS IN  
HEAVILY WOODED AND JUNGLED AREAS. FOR RECOVERY OF SERIOUSLY ILL,  
INJURED, OR WOUNDED INDIVIDUALS THE HH-43 HOIST CABLE CAN BE CONFIGURED  
WITH A LITTER OR A RESCUE BASKET. ALTHOUGH THE HH-43 IS PRIMARILY  
USED FOR LOCAL BASE RESCUE, IT HAS PERFORMED EXCEPTIONALLY MERITORIOUS  
SERVICE TO MANKIND IN EVERY PHASE OF GLOBAL SEARCH RESCUE MISSIONS  
RUNNING THE GAMUT FROM DISASTER RELIEF, MERCY MISSIONS, FIRE SUPPRESSION,  
LOGISTICAL SUPPORT IN DESOLATE, MOUNTAINOUS REGIONS OF THE WORLD  
AND MOST RECENTLY COMBAT AIRCREW RECOVERY IN THE HOSTILE ENVIRONMENT  
OF SEASIA.

Slide 11  
HH-3  
00070

THE HH-3E SIKORSKY HELICOPTER IS AFFECTIONATELY REFERRED TO AS THE  
"JOLLY GREEN GIANT". THIS LARGE, AMPHIBIOUS, TWIN TURBINE, SINGLE ROTOR  
HELICOPTER, WITH A GROSS WEIGHT OF 22,000 LBS, AND A DASH SPEED OF  
150 KNOTS, HAS A FLIGHT RANGE OF APPROXIMATELY 600 to 700 N.M. ALSO

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IT IS OUR FIRST HELICOPTER POSSESSING A FULL INSTRUMENT FLIGHT CAPABILITY. IN ITS SPECIAL COMBAT CONFIGURATION, IT IS EQUIPPED WITH THE FOLLOWING: ARMOR PLATING FOR THE CREW AND VITAL COMPONENTS; SELF SEALING FUEL TANKS; M-60 MACHINE GUNS; A RESCUE HOIST AND A FOREST PENETRATOR SPECIALLY DESIGNED FOR RETRIEVING INDIVIDUALS UP THROUGH DENSE TREES AND JUNGLE CANOPIES. IN ADDITION TO THESE FEATURES IT CAN BE REFUELED IN FLIGHT BY THE HC-130. (S)

Slide 12  
HH-53  
00071

THE SIKORSKY HH-53 IS THE LATEST HELICOPTER TO BE ADDED TO THE RESCUE INVENTORY. IT HAS GREATER PERFORMANCE PARAMETERS THAN THE H-3 JOLLY GREEN AND IS CAPABLE OF SURVIVING IN A SMALL ARMS AND LIGHT ANTI-AIRCRAFT FIRE ENVIRONMENT. IT IS ALMOST TWICE THE SIZE OF THE H-3 WITH A 40% BETTER HOVER CAPABILITY WHICH HAS GREATLY IMPROVED THE ABILITY TO OPERATE IN THE MOUNTAINOUS REGIONS OF SEASIA. THE HH-53 IS ARMED WITH THREE MINI-GUNS CAPABLE OF FIRING AT A RATE OF 2000 OR 4000 ROUNDS PER MINUTE WHICH INCREASES ITS DEGREE OF SURVIVABILITY CONSIDERABLY. THIS HELICOPTER HAS THE CAPABILITY OF LIFTING AND TRANSPORTING LARGE OBJECTS. IT RECENTLY LIFTED A MOCK UP OF AN APOLLO CAPSULE WHICH WEIGHED <sup>14,800</sup>~~12,000~~ LBS. SPACE PROGRAM FEASIBILITY TESTS CONDUCTED UNDER PROJECT "COMBAT HARVEST" ARE EXPECTED TO INTRODUCE AN ENTIRELY NEW CONCEPT OF RECOVERY FOR THE MANNED SPACE PROGRAM. THE HH-53 AS WELL AS THE HH-3, CAN BE REFUELED IN FLIGHT BY THE HC-130s. AIR REFUELING GREATLY INCREASES FLEXIBILITY IN THE TACTICAL USE OF THE HELICOPTER. THE USE OF THIS AIR REFUELING CAPABILITY IS KNOWN AS THE "RESCUE TEAM CONCEPT". (S)

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Slide 13  
Team Concept  
00075

BY COMBINING THE CAPABILITIES OF THE HC-130 WITH EITHER THE HH-3 OR HH-53 INTO A TEAM IT HAS PRODUCED A "QUANTUM - JUMP" IN OUR RESCUE CAPABILITIES AND OPERATIONAL CONCEPTS. THIS REFUELING TEAM CONCEPT IS NOW BEING EMPLOYED VERY SUCCESSFULLY ON A DAILY BASIS DURING RESCUE OPERATIONS IN SEASIA.<sup>(S)</sup> THE ACTUAL GLOBAL OPERATIONAL CAPABILITY OF THIS TEAM CONCEPT WAS DRAMATICALLY PROVED ON JUNE 1, 1967 WHEN TWO RESCUE HH-3 HELICOPTERS RECEIVED NINE AIR REFUELINGS BY HC-130 AIRCRAFT. THESE AIR REFUELINGS ALLOWED THE TWO HELICOPTERS TO FLY NON-STOP FROM NEW YORK TO PARIS IN 30 HOURS AND 46 MINUTES -- A WORLD RECORD. WITH THIS NEW TEAM CONCEPT, RESCUE FORCES WILL BE ABLE TO SEARCH, LOCATE AND RECOVER PERSONNEL AND HARDWARE JUST ABOUT ANY PLACE IN THE FREE WORLD.

Slide 15  
HC-97  
207

ALTHOUGH THE HC-97 IS NOT A RECOVERY VEHICLE, IT DOES POSSESS EMERGENCY STORES AND DROPPABLE EQUIPMENT INCLUDING TWO PARARESCUEMEN TO AID SURVIVORS IN DISTRESS. ARRS HAS ONLY ONE ACTIVE HC-97 UNIT, THE 305TH RESCUE RESERVE SQUADRON AT SELFRIDGE AFB, MICHIGAN, WHICH WAS CALLED TO ACTIVE DUTY DURING THE "PUEBLO CRISIS". THE 305TH HAS NINE HC-97 AIRCRAFT ASSIGNED WHICH ARE USED TO AUGMENT OTHER RESCUE UNITS AND SUPPORT RESCUE COMMITMENTS AT KEFLAVIK, ICELAND. THIS RESERVE UNIT SINCE CALLED TO ACTIVE DUTY, HAS BEEN EXTENSIVELY EXERCISED. ARRS WOULD BE HARD-PRESSED TO MEET ITS ~~RESCUE~~ COMMITMENTS WITHOUT 305TH HC-97 SUPPORT.

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Slide 16  
HU-16  
00067

THE AMPHIBIOUS HU-16 GRUMMAN ALBATROSS IS AN OLD WORKHORSE -- A VETERAN OF TWO WARS -- AND HAS BEEN IN THE RESCUE INVENTORY SINCE 1949. THIS AIRCRAFT WAS USED IN VIETNAM UNTIL REPLACED BY THE MORE MODERN HC-130. WHILE OPERATING IN THE GULF OF TONKIN, JUST OFF THE NORTH VIETNAM COAST, THE HU-16 SAVED THE LIVES OF 47 U.S. COMBAT AIRCREW MEN. UNTIL ~~VERY~~ RECENTLY HU-16'S OPERATED IN KOREA FOLLOWING THE PUEBLO CRISIS. FINALLY, THE OLD "WORKHORSE" WAS GRACEFULLY RETIRED FROM THE ACTIVE FLEET, BUT THERE ARE STILL THREE RESERVE HU-16 SQUADRONS IN THE CONTINENTAL UNITED STATES WHO ~~Occasionally~~ <sup>Frequently</sup> ARE CALLED UPON TO SUPPORT SEARCH AND RESCUE MISSIONS. (N)

Slide 17  
P.J.  
00078

WHILE TEAM WORK IS THE ESSENCE OF ALL RESCUE OPERATIONS, ONE MEMBER OF THE TEAM DESERVES SPECIAL MENTION -- THE PARARESCUEMAN, OFTEN CALLED P.J. THE PARARESCUEMEN TRULY COMPLETE THE RECOVERY SYSTEM. THEY ARE TRAINED PROFESSIONALS -- SCUBA QUALIFIED -- EXPERT MEDICAL TECHNICIANS -- PRECISION PARACHUTISTS AND HIGHLY PROFICIENT IN SURVIVAL TECHNIQUES. TO QUALIFY, EACH VOLUNTEER REQUIRES ONE YEAR OF SPECIALIZED, RIGOROUS AND INTENSIVE TRAINING BEFORE RECEIVING THE PARARESCUEMAN'S COVETED MAROON BERE. WHEN HE JUMPS INTO THE OPEN SEA, HIS EQUIPMENT WEIGHS BETWEEN 160 AND 180 POUNDS, OFTEN MORE THAN THE MAN HIMSELF. IN ADDITION TO HIS SCUBA TANK, HE CARRIES TWO PARACHUTES, TWO DIFFERENT TYPES OF FLOTATION GEAR, A

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MEDICAL KIT, KNIFE, SHARK REPELLENT, RADIO, ETC., ALL OF WHICH MAY BE NECESSARY TO COPE WITH HIS ENVIRONMENT. TIME AND AGAIN PARARESCUEMEN HAVE PARACHUTED TO THE AID OF INJURED ~~SERVICEMEN~~ <sup>INDIVIDUALS</sup> AND THEY HAVE BEEN INCREASINGLY EMPLOYED IN THE SPACE RECOVERY PROGRAM. THEY ARE A highly DEDICATED GROUP WHICH MACHINES CANNOT MATCH. WITHOUT THEIR CAPABILITY, SUCCESSFUL AIRCREW RECOVERY IN SEASIA WOULD BE GREATLY DECREASED, AND IN MANY CASES NOT POSSIBLE.

Slide 18  
Space  
208

NOW THAT YOU HAVE SEEN THE FORCES WE HAVE TO WORK WITH, LET'S TAKE A LOOK AT RESCUE SPACE FLIGHT SUPPORT. ARRS IS COMMITTED TO PROVIDE RESCUE FORCES TO SUPPORT MANNED SPACE FLIGHT RECOVERY OPERATIONS ON A WORLD-WIDE BASIS.

Slide 19  
Space  
383

THIS SUPPORT CONSISTS OF LAUNCH SITE, LAUNCH ABORT, PRIMARY LANDING, AND CONTINGENCY LANDING AREA COVERAGE. THE LAUNCH SITE AREA IS THAT AREA AROUND AND IMMEDIATELY DOWN RANGE FROM THE LAUNCH PAD. THE LAUNCH ABORT AREA IS A 100 MILE WIDE AREA ALONG THE GROUND TRACK FROM THE LAUNCH SITE TO THE WEST COAST OF AFRICA. THE PRIMARY LANDING AREA IS SELECTED PRIOR TO EACH MISSION AND IS IDENTIFIED AS THE PLANNED END-OF-MISSION LANDING AREA. THE CONTINGENCY AREA IS NORMALLY ALL THE EARTH'S SURFACE BETWEEN <sup>45°N</sup> ~~30°N~~ and <sup>45°S</sup> ~~30°S~~ LATITUDES, <sup>ALMOST</sup> ~~ALMOST~~ HALF OF THE GLOBE. ~~FOR~~ RECOVERY REQUIREMENTS ARE EXPRESSED IN TERMS OF ACCESS TIME. ACCESS TIME IS THE ELAPSED TIME BETWEEN NOTIFICATION THAT A LANDING HAS OCCURRED AND THAT TIME WHEN MEDICAL AID IS AVAILABLE TO THE ASTRONAUTS. IT INCLUDES

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LOCATION OF THE SPACECRAFT, DEPLOYMENT OF THREE PARARESCUEMEN AND A FLOTATION COLLAR, COLLAR INSTALLATION, AND HATCH OPENING. ACCESS TIME VARIES ACCORDING TO THE PROBABILITIES OF LANDING AND THE AREA CONCERNED. THE ACCESS TIME IN THE LAUNCH SITE AREA IS 30 MINUTES; IN THE LAUNCH ABORT AREA, IT IS FOUR HOURS; IN THE PRIMARY LANDING AREA, TWO HOURS; AND IN THE CONTINGENCY LANDING AREA, 18 HOURS. (S)

Slide 20  
Space  
AROOPS No. 1

TO MEET THESE ACCESS TIMES FOR APOLLO 9, FOR EXAMPLE, ARRS PROVIDED THREE HELICOPTERS IN THE LAUNCH SITE AREA AND THREE HC-130 AIRCRAFT AIRBORNE IN THE LAUNCH ABORT AREA AT THESE POSITIONS. (PAUSE) (S)

Slide 21  
Space  
AROOPS  
No. 2

DURING RECOVERY OPERATIONS, TWO HC-130s WERE AIRBORNE IN THE PRIMARY LANDING AREA FOR APOLLO 9 WHICH WAS APPROXIMATELY 300 MILES NNW OF PUERTO RICO. IN ADDITION, 18 HC-130'S WERE ON GROUND ALERT - TWO AT EACH OF 9 LOCATIONS, COVERING THE CONTINGENCY AREA THROUGHOUT THE APOLLO 9 SPACE MISSION. THE CONTINGENCY FORCES WERE AT HICKAM AFB, HAWAII; HOWARD AFB, CANAL ZONE; KINDLEY AB, BERMUDA; LAJES AB IN THE AZORES; ASCENSION ISLAND; MAURITIUS, SAMOA; PERTH AUSTRALIA; AND TACHIKAWA AB, JAPAN. (S)

Slide 22  
Space  
AROOPS No. 3

THE TOTAL ARRS RECOVERY FORCE COMMITTED TO APOLLO 9 CONSISTED OF 22 AIRCRAFT AT 10 LOCATIONS AND ABOUT 341 PERSONNEL. THIS IS TYPICAL ARRS COVERAGE FOR APOLLO SPACEFLIGHT SUPPORT. (S)

Slide 23  
SEASIA  
00083

THE MOST IMPORTANT ARRS MISSION TODAY IS COMBAT AIRCREW RECOVERY FROM HOSTILE ENVIRONMENTS OF SEASIA. THE RESCUE AREA OF RESPONSIBILITY IN SEASIA COVERS APPROXIMATELY 1,000,000 SQ MILES STRETCHING EAST

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FROM BURMA TO AND INCLUDING THE GULF OF TONKIN AND REACHING FROM THE NORTH VIETNAM/CHINESE BORDER, SOUTH TO AND INCLUDING THE GULF OF SIAM. RESCUE FORCES IN SEASIA INCLUDE ~~20~~<sup>9</sup> DETACHMENTS OF HH-43 HELICOPTERS IN SOUTH VIETNAM LOCATED AS FAR NORTH AS DANANG NEAR THE DMZ AND SPREAD SOUTHWARD TO BINH THUY IN THE DELTA. IN ADDITION TO ~~FOUR~~<sup>FIVE</sup> HH-43 DETACHMENTS IN THAILAND, THERE ARE HH-53'S AND H-3'S AT UDORN AND NAKON PHANOM, THAILAND, RESPECTIVELY. HH-3'S ARE ALSO BASED AT DANANG IN SOUTH VIETNAM. THE RESCUE HELICOPTERS ARE ON CONTINUOUS GROUND ALERT WITH FREQUENT AIRBORNE ORBITS FLOWN TO COVER STRIKE AIRCRAFT FLYING HIGH RISK MISSIONS. THE HC-130'S OPERATE FROM TUY HOA IN SOUTH VIETNAM AND EACH DAY FROM DAWN TO DUSK, TWO WILL ORBIT OVER THE GULF OF TONKIN AND OVER THE THAILAND/LAOS BORDER. THE ORBITING HC-130'S ACT AS AIRBORNE MISSION CONTROL SHIPS AND PROVIDE AN AIR REFUELING SOURCE FOR RESCUE HELICOPTERS. WORKING CLOSELY WITH THE TACTICAL FORCES OF THE 7TH AF, ARRS HAS DEVELOPED AND EMPLOYED A NUMBER OF HIGHLY EFFECTIVE TECHNIQUES AND PROCEDURES. THE BASIC AND UNDERLYING FACTOR IS THE SUPERB TEAMWORK AND SUPPORT PROVIDED BY MANY TACTICAL UNITS OF THE AIR FORCE AS WELL AS BY OUR COMRADES IN ARMS IN THE ARMY, THE NAVY AND THE MARINE CORPS. AT THIS POINT LET'S SEE A SHORT FILM ~~ON~~<sup>OF</sup> AN ACTUAL RESCUE THAT DESCRIBES VERY VIVIDLY THE COMBAT AIRCREW RECOVERY MISSION IN SEASIA. (S)

(FILM -- "NO MAN EXPENDABLE")

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Saves  
00090

FINALLY, IT IS INTERESTING TO TAKE A LOOK AT THE SCORE SHEET WHICH WILL GIVE YOU AN IDEA OF THE RESULTS AND EFFECTIVENESS OF THE RESCUE EFFORT. THE HISTORICAL, COMPARATIVE ANALYSIS OF ARRS LIFE SAVING STATISTICS IS SHOWN ON THIS CHART. FROM MAY 1946, THE INCEPTION OF RESCUE, THROUGH END 1964, ARRS FORCES COMPILED 3,840 SAVES OF WHICH 996 WERE ACCOMPLISHED IN KOREAN OPERATIONS, 1950 to 1953. ADDITIONALLY, DURING THIS PERIOD ARRS CONTRIBUTED TO 7,660 SAVES BY PROVIDING MISSION CONTROL AND/OR SEARCH RECOVERY CAPABILITY TO ~~State~~ OTHER NATIONAL/INTERNATIONAL SEARCH AGENCIES. DURING THE PERIOD JULY 1964 THROUGH DECEMBER 1966, ARRS SAVES INCREASED BY 1,025 OF WHICH 642 WERE ACCOMPLISHED IN SEASIA OPERATIONS; WHILE PROVIDING ASSISTANCE TO OTHER AGENCIES, AN ADDITIONAL 630 SAVES. IN 1967, HC-130'S AND HH-3'S WERE INTRODUCED INTO THE SEASIA INVENTORY AND ACCOUNTED FOR 945 SAVES OF WHICH 646 WERE ACCOMPLISHED IN SEASIA OPERATIONS. 1968 WAS OUR BUSIEST YEAR, BREAKING ALL PRIOR RECORDS. TO DATE, IN 1969, ARRS HAS ALREADY ACCOUNTED FOR 381 SAVES, 286 IN SEASIA. THIS BRINGS THE TOTAL ARRS SAVES TO 7520 OF WHICH 3,486 HAVE BEEN CONDUCTED IN SUPPORT OF COMBAT OPERATIONS, PLUS ASSISTING IN 8,290 SAVES BY OTHER AGENCIES FOR A GRAND TALLY OF 15,810 LIVES SAVED SINCE 1946. THIS IS INDEED A MOST REWARDING DIVIDEND ON A RELATIVELY MODEST INVESTMENT.

THIS ACCOMPLISHMENT; HOWEVER, WAS NOT WITHOUT LOSSES. (S) SINCE THE VIETNAM CONFLICT BEGAN, 28 TOTAL RESCUE AIRCRAFT HAVE BEEN LOST DUE TO COMBAT AND OTHER REASONS WHILE 40 PEOPLE PAID THE SUPREME SACRIFICE ATTEMPTING TO SAVE THE LIVES OF OTHERS. ( )

Slide 25  
Losses  
SEASIA

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Slide 26  
SEA Saves  
Breakout  
00085

AS A FURTHER BREAKOUT THE ACTUAL SEASIA SAVE HISTORY IS REFLECTED  
ON THIS CHART. (CLARIFY CHART AND SAVE DEFINITION-RECAP TOTAL  
1624 ~~1624~~  
COMBAT SAVES AND DRAMATIZE STATISTICS - ACR COMBAT SAVES ALONE  
WOULD CREW 9 TACTICAL FIGHTER WINGS)

OUR PRIME CONCERN IS NOT LOOKING BACK AT PAST ACCOMPLISHMENTS  
BUT RATHER TO CONTINUE THE DEVELOPMENT OF A DYNAMIC, FLEXIBLE  
FORCE CAPABLE OF RESPONDING TO ALL CURRENT AND FUTURE GLOBAL  
SEARCH AND RECOVERY REQUIREMENTS. TODAY AND EACH DAY IN THE  
FUTURE, RESCUE CREWS ARE AND WILL BE ALERT AND READY TO PERFORM  
THEIR DUTIES QUICKLY AND EFFICIENTLY IN ORDER ..... (5)

"THAT OTHERS MAY LIVE"-

Slide 27  
Shield  
00063

~~GENTLEMEN, THAT CONCLUDES MY BRIEFING. I WILL BE HAPPY TO~~

~~ENTERTAIN ANY QUESTIONS.~~

*Gentlemen it has been a  
since pleasure to speak with you  
today. I wish you good luck every  
where and trust that you will give it  
your full support - Thank you*

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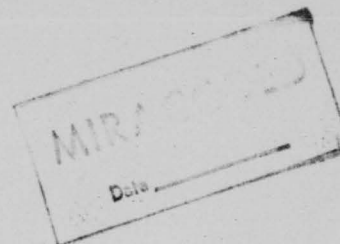
DEPARTMENT OF THE AIR FORCE  
HQ AEROSPACE RESCUE & RECOVERY SERVICE (MAC)  
SCOTT AIR FORCE BASE, ILLINOIS 62225

BRIEFING  
ON  
AEROSPACE RESCUE AND RECOVERY SERVICE

1ST CORONA HARVEST  
DO NOT DESTROY

CATALOGED

No. 000 5828



308

ATCH 8

Presented by Col H. H. Bridges  
to International Order of Characters  
Annual Conference, Stamford, Conn.  
Dec 2, 1967

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GENTLEMEN

SLIDE 1     ALTHOUGH RESCUE IS SMALL IN SIZE COMPARED TO OTHER WORLD-WIDE  
COMMANDS, WE HAVE A UNIQUE MISSION OF UNUSUAL SCOPE AND DIVERSITY.

SLIDE 2     BASICALLY, WE PROVIDE A WORLD-WIDE CAPABILITY TO SEARCH FOR,  
00064     LOCATE, AND RECOVER PERSONNEL AND AEROSPACE HARDWARE IN SUPPORT  
OF USAF AND OTHER DOD GLOBAL AEROSPACE OPERATIONS. IN COMBAT,  
WE PROVIDE THE CAPABILITY FOR THE RESCUE OF MILITARY PERSONNEL  
FROM HOSTILE AREAS.

SLIDE 3     THERE ARE FOUR PRIMARY TASKS CONNECTED WITH OUR MISSION. - IN THE  
00065     "PRECAUTIONARY" AREA, WE PROVIDE ORBITS AT MANY LOCATIONS  
ALONG THE OVERWATER WORLD AIRLINES OF COMMUNICATIONS. FIGHTER  
AIRCRAFT WILL NOT NORMALLY FLY ACROSS THE OCEANS WITHOUT OUR  
RESCUE PLANES IN POSITION, EXAMPLE AF 1. // WE ACCOMPLISH MANY  
"EMERGENCY" MISSIONS, ALL TYPES, FOR ALL PEOPLE, SUCH AS: A  
FIGHTER PILOT HAS HAD TO LEAVE HIS AIRCRAFT. - - A BOMBER CREW IS  
MISSING. - - A SMALL PRIVATE VESSEL IS LOST IN THE SOUTH PACIFIC. -  
A USAF TRANSPORT PLANE HAS LOST AN ENGINE AND REQUIRES INTERCEPT  
AND ESCORT. - - A CIVILIAN PRIVATE AIRCRAFT HAS BEEN REPORTED  
MISSING. AND SO ON IT GOES.

IN THE AREA OF "SPACE OPERATIONS" WE FIND AN EVER INCREASING  
NUMBER OF REQUIREMENTS. WE HAVE BEEN OPERATING IN CONJUNCTION  
WITH THE MANNED SPACE FLIGHTS EVER SINCE THE MERCURY PROGRAM  
STARTED, AND WE ALSO RECOVER AEROSPACE HARDWARE ON A PREPLANNED  
BASIS.

OUR PRIME TASK IS THE RECOVERY OF "COMBAT MILITARY PERSONNEL",  
AND WE ARE DEEPLY INVOLVED IN SOUTHEAST ASIA AT THIS TIME.

SLIDE 4     TO PERFORM THESE TASKS, WE HAVE A GLOBAL ORGANIZATIONAL STRUCTURE  
Org     AS SHOWN HERE. IN ADDITION TO OUR HEADQUARTERS IN ORLANDO, FLA,  
00066

WE HAVE 105

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WE HAVE 105 UNITS ~~AROUND~~ THE WORLD -- IN THE UNITED STATES, GUAM, OKINAWA, PANAMA CANAL ZONE, ALASKA AND 15 FOREIGN COUNTRIES. OUR RESOURCES CONSIST OF 5,100 PERSONNEL AND 267 AIRCRAFT OF VARIOUS TYPES.

TODAY I WOULD LIKE TO GIVE YOU A BRIEF REVIEW OF OUR EQUIPMENT, SEARCH AND RESCUE CAPABILITIES, DISCUSS OUR PRIMARY MISSIONS IN GENERAL TERMS, AND INTRODUCE YOU TO A VERY SPECIAL AND UNIQUE MEMBER OF OUR RESCUE TEAM. A QUICK LOOK AT SOME OF OUR AIRCRAFT

SLIDE 5  
HU-16  
00067

AND THEIR CAPABILITIES. FIRST, THE HU-16 GRUMMAN ALBATROSS, THE OLD WORKHORSE -- VETERAN OF TWO WARS, HAS BEEN IN OUR INVENTORY SINCE 1949, AND ALTHOUGH IT IS BEING PHASED OUT OF OUR INVENTORY, IT HAS BEEN VERY EFFECTIVE IN THE GULF OF TONKIN WHERE IT HAS ACCOMPLISHED 47 COMBAT SAVES IN THE LAST TWO YEARS.

SLIDE 6  
HH-43  
00068

THE KAMAN HH-43 HUSKIE, -- USED AROUND THE WORLD BY OUR LOCAL BASE RESCUE (LBR) UNITS, PLUS EXTENSIVELY IN SOUTHEAST ASIA BOTH AS AN LBR AND COMBAT RECOVERY AIRCRAFT.

SLIDE 7  
CH-3C  
00069

THIS IS THE CH-3C, USED PRIMARILY AT CAPE KENNEDY TO SUPPORT THE EASTERN TEST RANGE.

SLIDE 8  
HH-3  
00070

THE HH-3 SIKORSKY HELICOPTER, WHICH IS THE COMBAT VERSION OF THE CH-3C, POPULARLY REFERRED TO AS THE "JOLLY GREEN GIANT". THIS LARGE TWIN TURBINE HELICOPTER, WITH A GROSS WEIGHT OF 22,000 LBS, AND TOP SPEED OF 142 KNOTS, HAS A <sup>FLIGHT</sup> ~~MAXIMUM~~ RANGE OF APPROX 600 - 700 NM. ALSO, IT IS OUR FIRST HELICOPTER POSSESSING A FULL INSTRUMENT FLIGHT CAPABILITY. IN ITS SPECIAL COMBAT CONFIGURATION, IT IS EQUIPPED WITH: ARMOR PLATING FOR THE CREW AND VITAL COMPONENTS, -- SELF-SEALING FUEL TANKS, -- M-60 MACHINE GUNS, -- A RESCUE HOIST AND A FOREST PENETRATOR SPECIALLY DESIGNED FOR RETRIEVING PERSONNEL UP THROUGH

THE DENSE JUNGLE

THE DENSE JUNGLE CANOPY / IN ADDITION TO THESE FEATURES IT IS CAPABLE OF BEING REFUELED IN FLIGHT. THIS FEATURE GIVES US A GREAT BOOST IN THE TACTICAL USE OF THE ROTARY WING AIRCRAFT.

SLIDE 9  
HH-53

00071

THE HH-53 IS THE LATEST HELICOPTER TO BE ADDED TO OUR INVENTORY. THIS TYPE HELICOPTER WAS PROCURED JUST RECENTLY IN RESPONSE TO AN URGENT MACV REQUIREMENT FOR AN IMPROVED AIRCRAFT CAPABLE OF SURVIVING IN A SMALL ARMS AND ANTI-AIRCRAFT FIRE ENVIRONMENT. THIS HELICOPTER IS ALSO CAPABLE OF BEING REFUELED IN FLIGHT. IT IS ALMOST TWICE THE SIZE OF THE JOLLY GREEN, WITH A MAXIMUM GROSS WEIGHT OF 39,000 LBS. ITS SPEED AND HOVER PERFORMANCE IS APPROX 41% BETTER THAN THE H-3 WHICH WILL GREATLY IMPROVE OUR CAPABILITY TO OPERATE IN THE HOSTILE MOUNTAINOUS REGIONS OF NVN. IN GENERAL, ITS COMBAT CONFIGURATION WILL BE SIMILAR TO THE "JOLLY GREEN'S" WITH ONE MAIN EXCEPTION. WITH ITS ADDED LIFT CAPACITY IT WAS POSSIBLE TO ADD A MUCH MORE POWERFUL AND EFFECTIVE PROTECTIVE WEAPONS SYSTEM. -- WITH ITS THREE MINI-GUNS THAT ARE CAPABLE OF FIRING AT A RATE OF 2,000 - 4,000 ROUNDS PER MINUTE, IT INCREASES OUR DEGREE OF SURVIVABILITY CONSIDERABLY. SINCE THIS HELICOPTER HAS THE CAPABILITY OF PICKING UP AND CARRYING OBJECTS, COMPARABLE TO THE SIZE AND WEIGHT OF THE APOLLO CAPSULE, IT HAS GREAT POTENTIAL FOR FUTURE USE IN THE SPACE PROGRAM. FEASIBILITY TESTS ARE BEING CONDUCTED IN THIS AREA UNDER PROJECT "COMBAT HARVEST" THAT WILL INTRODUCE AN ENTIRELY NEW CONCEPT OF RECOVERY FOR THE MANNED SPACE PROGRAM.

SLIDE 10  
HC-130

00073

THIS IS OUR NEWEST FIXED WING AIRCRAFT, THE HC-130 HERCULES. THIS AIRCRAFT IS DESIGNED TO: FLY AT HIGH ALTITUDE, -- CRUISE AT 290 KTS TAS, -- CARRY A MAXIMUM GROSS WT OF 175,000, -- HAVE A CRUISING RANGE OF 4,500 NM, -- HAVE SPECIAL COMMUNICATIONS PLUS A UHF DIRECTIONAL TRACKER, (COOKE ELECTRIC TRACKER/ARD-17) - NOTE: THE HUMP ON ITS BACK, WHICH WE USE PRIMARILY FOR PINPOINT TRACKING OF THE SPACE VEHICLE

UPON RE-ENTRY TO

THE DENSE JUNGLE CANOPY. IN ADDITION TO THESE FEATURES IT IS CAPABLE OF BEING REFUELED IN FLIGHT. THIS FEATURE GIVES US A GREAT BOOST IN THE TACTICAL USE OF THE ROTARY WING AIRCRAFT.

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UPON RE-ENTRY TO



SLIDE 11 UPON RE-ENTRY TO THE EARTH ALSO A NUMBER OF THESE AIRCRAFT HAVE  
 Air/Air Refueling BEEN ESPECIALLY EQUIPPED AS AIR REFUELING TANKERS FOR OUR HELICOP-  
 14 TERS. BY COMBINING THE CAPABILITIES OF THE HC-130 WITH OUR TWO NEW  
 HELICOPTERS INTO A "TEAM" IT HAS PRODUCED A "QUANTUM JUMP"  
 IN OUR RESCUE CAPABILITIES AND OPERATIONAL CONCEPTS. THIS NEW  
 CONCEPT IS NOW BEING EMPLOYED VERY SUCCESSFULLY IN SEASIA ON A  
 DAILY BASIS. FURTHER, THIS INCREASED CAPABILITY WAS RECENTLY

SLIDE 12 STOP, UTILIZING 9 REFUELINGS IN THEIR RECORD BREAKING 30-HR AND 46-MIN  
 Team Concept FLIGHT. WITH THIS NEW "TEAM CONCEPT" NOW FOR THE FIRST TIME  
 00075 IN RESCUE'S HISTORY WE WILL BE ABLE TO "SEARCH, LOCATE AND  
 RECOVER", PERSONNEL AND HARDWARE JUST ABOUT ANY PLACE IN THE  
 FREE WORLD.

SLIDE 13 NOW LET'S LOOK AT SOME OF OUR SPECIALIZED RECOVERY SYSTEMS. FIRST,  
 Surface/Air THE SURFACE-TO-AIR RECOVERY SYSTEM WHICH WAS DESIGNED TO ALLOW AN  
 00076 AIRCRAFT TO AIR SNATCH PERSONNEL OR MATERIAL WEIGHING UP TO 500 LBS  
 FROM THE EARTH'S SURFACE. VERY BRIEFLY, THIS SYSTEM WORKS AS  
 FOLLOWS:

(BRIEF SYSTEM FROM SLIDE -- POINTING OUT OPERATIONAL  
 TODAY PICKING UP MATERIAL "PROJECT SPEARGUN", PLUS  
 IT IS AVAILABLE FOR LIVE PICKUPS IF EMERGENCY SITUATION  
 REQUIRES.)

SLIDE 14 THIS IS OUR AIR-TO-AIR RECOVERY SYSTEM, WHICH WAS DESIGNED TO AIR  
 Air/Air Recovery SNATCH PARACHUTED OBJECTS WEIGHING 65 TO 2,500 LBS AT ALTITUDES  
 00077 BETWEEN 15,000 FT AND SEA LEVEL. VERY BRIEFLY THIS SYSTEM WORKS  
 AS FOLLOWS:

BRIEF FROM SLIDE

ARRS IS CURRENTLY UTILIZING THIS SYSTEM ON A MONTHLY  
 BASIS IN CONJUNCTION WITH THE AIR WEATHER SERVICE'S AIR SAMPLING  
 MISSION, TTLED, "ASH CAN" AND "ALARR". THE ASH CAN PACKAGES  
 4 ARE GROUND LAUNCHED

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DAILY BASIS. FURTHER, THIS INCREASED CAPABILITY WAS RECENTLY  
DRAMATICALLY DEMONSTRATED TO THE WORLD ON 1 JUN, WHEN TWO OF OUR  
JOLLY GREEN HELICOPTERS FLEW 3,510 NM FROM NEW YORK TO PARIS NON-  
STOP, UTILIZING 9 REFUELINGS IN THEIR RECORD BREAKING 30-HR AND 46-MIN  
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ARE GROUND LAUNCHED BY HELICOPTER UP TO ALTITUDES OF 135,000 FT.  
THE ALARR IS AIR LAUNCHED FROM A JET AIRCRAFT UP TO 330,000 FT,  
BOTH OF WHICH REQUIRES PRECISION TEAM WORK ON THE PART OF OUR  
CREWS TO INSURE SUCCESSFUL RECOVERY.

SLIDE 15 ONE MEMBER OF OUR TEAM, (WHILE TEAM WORK IS THE ESSENCE OF ALL  
PJ PJ RESCUE OPERATIONS, DESERVES SPECIAL MENTION, OUR WORLD FAMOUS  
800 18 "PARARESCUEMAN". THIS MAN REALLY COMPLETES OUR RESCUE TEAM.  
-- THEY ARE TRAINED PROFESSIONALS, -- SCUBA QUALIFIED, -- EXPERT  
MEDICAL TECHNICIANS, -- PRECISION PARACHUTISTS, AND HIGHLY TRAINED  
IN SURVIVAL TECHNIQUES. TO QUALIFY FOR THIS POSITION, IT REQUIRES  
ONE YEAR OF SPECIALIZED TRAINING. THREE MAIN ACTION UNIFORMS

SLIDE 16 (NOTE: MAROON BERET), THE PARARESCUEMAN IS THE ARM OF RESCUE THAT  
PJ Uniform CAN GO BEYOND THE CONFINES OF THE MACHINE AND PHYSICALLY CHANGE  
THE CONDITIONS AND SITUATIONS OF A DISTRESSED PERSON, REGARDLESS  
OF THE WEATHER OR ENVIRONMENT AND MAKE IT POSSIBLE TO EFFECT A  
SUCCESSFUL RECOVERY. NORMALLY WHEN HE JUMPS OUT OF AN AIRCRAFT  
HE IS CARRYING 160 TO 180 LBS OF EQUIPMENT.

INTRODUCE SGT NEAL

SHOW SLIDES ON PJ'S

SLIDE 16A

TREE JUMP SUIT

SLIDE 16B

LANDING IN TREES

SLIDE 16C

MOUNTAIN CLIMBING

SLIDE 17 JUST A QUICK REVIEW OF OUR MISSION IN SUPPORT OF THE SPACE RECOVERY  
Aerospace PROGRAM. RESCUE HAS PARTICIPATED IN THE SPACE PROGRAM SINCE ITS  
Recovery INCEPTION. THE NAVY HAS PRIMARY RESPONSIBILITY FOR RECOVERY IN  
800 19 THE PLANNED LANDING AREAS, WITH RESCUE BACKING THEM UP IN A  
SECONDARY ROLE. RESCUE HAS THE PRIMARY RESPONSIBILITY FOR THE

SLIDE 18  
Contn-  
gency area

ENTIRE CONTINGENCY AREA AS SHOWN HERE, -- AN AREA BETWEEN 40°N  
AND 40°S, WHICH COVERS APPROXIMATELY 1/2 THE EARTH'S SURFACE.

TO DO THIS,



ARE GROUND LAUNCHED BY BALLOONS UP TO ALTITUDES OF 135,000 FT.  
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Contin- ENTIRE CONTINGENCY AREA AS SHOWN HERE, -- AN AREA BETWEEN 40°N  
gency area  
00080 AND 40°S, WHICH COVERS APPROXIMATELY 1/2 THE EARTH'S SURFACE.

TO DO THIS,

SLIDE 19 TO DO THIS, ON EVERY MANNED SPACE FLIGHT WE HAVE AIRCRAFT AND  
Deployed CREWS DEPLOYED AROUND THE WORLD AS SHOWN HERE, SO AS TO BE ABLE  
Aft TO RESPOND IMMEDIATELY IF ANYTHING GOES WRONG. TO DATE NASA  
HAS ENJOYED GREAT SUCCESS IN PINPOINTING THE ASTRONAUTS IN THE  
PLANNED LANDING AREAS, BUT AS YOU MAY REMEMBER, GT-8, ON 16 MAR  
1966, IT WAS NECESSARY TO MAKE AN EARLY LANDING IN THE WESTERN  
PACIFIC AREA. OUR FORCES WERE SCRAMBLED FROM OKINAWA AND  
TACHIKAWA AND WERE ACTUALLY ON SCENE AND VISUALLY OBSERVED

SLIDE 20 THE SPACECRAFT LANDING IN THE CONTINGENCY AREA. SGT NEAL HERE  
Collar WAS ONE OF THE PARARESCUEMEN WHO WAS DEPLOYED INTO THE OCEAN AND  
Instl INFLATED THE FLOTATION COLLAR AROUND THE SPACECRAFT, AND OUR  
AIRCRAFT CONTINUED TO CAP THE SPACECRAFT UNTIL A DESTROYER ARRIVED  
SOME HOURS LATER TO MAKE THE PICKUP.

SLIDE 21 OUR MOST PRESSING MISSION TODAY IS COMBAT RECOVERY IN SOUTHEAST  
SEA ASIA. JUST A FEW WORDS ON OUR ACTIVITIES HERE, THEN I WILL SHOW YOU  
00082 A FILM THAT DESCRIBES VERY VIVIDLY OUR MISSION IN THE COMBAT RECOVERY  
ROLE.

SLIDE 21A  
MAP SEA

BRIEF FROM SLIDE COVERING:

RESCUE FORCE DEPLOYMENT

MISSION TASK FORCE PROFILE

EXPLOITS OF CREWS

"TEAM CONCEPT" OPERATION

TO GIVE YOU A BETTER PICTURE OF THE ACTUAL CONDITIONS THAT EXIST  
IN SEASIA, THESE SLIDES DEPICT THE TYPICAL ENVIRONMENT IN WHICH  
WE MUST OPERATE.

SLIDES

22  
23  
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25  
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WITH OUR PRESENT

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SLIDE 27  
Saves

WITH OUR PRESENT COMBAT FORCE WE HAVE ACHIEVED AN ENVIABLE RECORD OF COMBAT SAVES. WE JUST RECENTLY COMPLETED THE 1300TH SAVE IN THE COMBAT AREA. MOST SIGNIFICANTLY, WITHIN THIS TOTAL ARE THE EQUIVALENT OF OVER 5 TACTICAL WINGS OF COMBAT PILOTS. THIS IS INDEED A MOST REWARDING DIVIDEND ON A RELATIVELY MODEST INVESTMENT. ALL OF THIS HAS NOT BEEN WITHOUT COST OR LOSS. FOR EACH RESCUE AIRCREWMAN KILLED, CAPTURED, OR MISSING IN SEASIA, WE HAVE RETURNED A TOTAL OF 46 MEN FROM COMBAT AREAS. FOR EACH AIRCRAFT LOST IN COMBAT, WE HAVE RETURNED A TOTAL OF 101 MEN WHO HAVE BEEN RESCUED.

NOW I WOULD LIKE TO SHOW YOU A SHORT MOVIE THAT WAS FILMED ENTIRELY IN SEASIA OF AN ACTUAL RESCUE MISSION. I BELIEVE YOU WILL FIND THIS FILM A MOST INTERESTING AND REVEALING DOCUMENT OF OUR RESCUE CREWS IN ACTION UNDER COMBAT CONDITIONS.

CHINA  
FILM

SLIDE 28  
Decorations

00087

PERFORMING THIS COMBAT MISSION OUR CREWS HAVE EARNED THE HIGHEST RESPECT OF OUR NATION. THE 3D GROUP IS ONE OF THE MOST DECORATED AIR FORCE UNITS IN THE ANNALS OF AMERICAN HISTORY, 3718 DECORATIONS SINCE JUL 1964, (INCLUDING 8 AF CROSSES, 101 SILVER STARS, PLUS TWO PRESIDENTIAL UNIT CITATIONS WHICH WERE PERSONALLY PRESENTED AT THE WHITE HOUSE BY PRESIDENT JOHNSON.

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00088

CONCLUSION

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**CONFIDENTIAL**

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Director Aerospace Studies Inst ATTN: Archives Branch Maxwell AFB, Alabama	RETURN TO	SEP 1968 X	K818.203-13
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SUBJECT TO GENERAL DECLASSIFICATION  
SCHEDULE OF EXECUTIVE ORDER 11652  
AUTOMATICALLY DOWNGRADED AT TWO YEAR  
INTERVALS DECLASSIFIED ON DECEMBER  
31, 1976

*Aerospace Rescue & Recovery Service (MARC)  
Combat Aircrew Recovery (ACR)  
Briefing  
for  
Space Center (U)  
September 1968*

PROJECT CORONA HARVEST

DO NOT DESTROY

**CATALOGED**

No. 000 5830

GROUP 4  
Downgraded at 3 year  
intervals; declassified  
after 12 years

**MIRACODE**  
Date \_\_\_\_\_

7-3601-8

**CONFIDENTIAL**

DEPARTMENT OF THE AIR FORCE  
HQ AEROSPACE RESCUE & RECOVERY SERVICE (MAC)  
SCOTT AIR FORCE BASE, ILLINOIS 62225

COMBAT AIRCREW RECOVERY (ACR) DESTROY

BRIEFING

FOR

SPACE CENTER (u)

CATALOGED

5830

SEPT 68

GENTLEMEN:

THIS MORNING I SHALL PRESENT A BRIEF OVERVIEW OF THE  
AEROSPACE RESCUE AND RECOVERY SERVICE ROLE IN SOUTHEAST  
ASIA.

PRIOR TO DISCUSSING OUR COMBAT OPERATIONS, I'D LIKE TO  
ACQUAINT YOU WITH OUR WORLD-WIDE ORGANIZATION AND MISSION  
RESPONSIBILITY.

ALTHOUGH RESCUE IS RATHER SMALL IN SIZE COMPARED TO THE  
OTHER COMMANDS, WE HAVE A UNIQUE MISSION OF UNUSUAL SCOPE  
AND DIVERSITY.

BASICALLY, WE PROVIDE A WORLD-WIDE CAPABILITY TO SEARCH  
FOR, LOCATE, AND RECOVER PERSONNEL AND AEROSPACE HARDWARE  
IN SUPPORT OF USAF AND OTHER DOD GLOBAL AEROSPACE OPERATIONS.  
IN COMBAT, WE PROVIDE THE CAPABILITY FOR RESCUE OF MILITARY  
PERSONNEL FROM HOSTILE AREAS.

THERE ARE FOUR PRIMARY TASKS

GROUP 4

Downgraded at 3 year intervals;  
Declassified after 12 years.

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Slide 1  
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00063

Slide 2  
Mission  
00064

DOWNGRADED AT 3 YEAR INTERVALS  
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Slide 3  
Tasks  
00065

THERE ARE FOUR PRIMARY TASKS CONNECTED WITH OUR MISSION:

FIRST: WE PROVIDE PRECAUTIONARY MISSIONS WHICH INCLUDE PROVIDING ORBITS, COMMONLY REFERRED TO AS DUCKBUTTS, FOR JET FIGHTERS AND SINGLE ENGINE RECIPROCATING AIRCRAFT TRANSITING OCEANIC OR DESOLATE TERRAIN ROUTES OF FLIGHT. ORBITS ARE ALSO PROVIDED FOR TRANSOCEANIC FLIGHTS BY THE PRESIDENT AND REQUIRE RESCUE AIRCRAFT TO BE WITHIN 30 MINUTES OF AF #1 AT ALL TIMES.

SECOND: WE ACCOMPLISH MANY EMERGENCY MISSIONS, ALL TYPES FOR ALL PEOPLE, SUCH AS: A FIGHTER PILOT HAS HAD TO LEAVE HIS AIRCRAFT--A BOMBER CREW IS MISSING--A SMALL PRIVATE VESSEL IS LOST IN THE SOUTH PACIFIC, AND SO IT GOES.

THIRD: IN SPACE OPERATIONS, WE HAVE AN EVER INCREASING NUMBER OF REQUIREMENTS. HERE WE HAVE PROVIDED RECOVERY CAPABILITY IN CONJUNCTION WITH THE MANNED SPACE FLIGHTS SINCE THE MERCURY PROGRAM STARTED AND ALSO RECOVER AERO-SPACE HARDWARE ON A PREPLANNED BASIS.

Slide 4  
SEAsia  
0082

FINALLY, OUR PRIMARY TASK, AND THE ONE TO WHICH WE ARE DEEPLY COMMITTED AT THE PRESENT TIME IS COMBAT AIRCREW

RECOVERY IN SOUTHEAST ASIA.

SECRET



**SECRET**

RECOVERY IN SOUTH ASIA

Slide 5  
ORG.  
00066

TO PERFORM THESE TASKS WE HAVE A GLOBAL ORGANIZATIONAL STRUCTURE AS SHOWN HERE. THIS ORGANIZATION CONSISTS OF 108 UNITS LOCATED IN 98 GEOGRAPHICAL LOCATIONS. OUR RESOURCES CONSIST OF SOME 5400 PERSONNEL AND 262 AIRCRAFT, OF WHICH 199 ARE ROTARY WING.

Slide 5-a  
ARRS  
Historical  
Data  
00089

LET ME DIGRESS HERE FOR A MOMENT. DURING THE KOREAN WAR, RESCUE BUILT UP TO A PEAK STRENGTH OF ABOUT 13,000 MEN. AFTER THE KOREAN CONFLICT, BECAUSE OF CHANGES IN NATIONAL POLICY, RESCUE SERVICE WAS REDUCED TO A RATHER INEFFECTIVE FORCE OF SLIGHTLY OVER 1400 PERSONNEL AND 69 AIRCRAFT. EVEN THE WAR-TIME REQUIREMENTS CLAUSE WAS WITHDRAWN FROM OUR MISSION STATEMENT ON THE GENERALLY ACCEPTED, BUT MISTAKEN, PHILOSOPHY THAT: "THE WARTIME MISSION WOULD MERELY BE AN EXTENSION OF OUR PEACETIME EQUIPMENT AND PROCEDURES." THIS, OF COURSE, IS THE REVERSE OF WHAT IT SHOULD HAVE BEEN, AND OUT OF CONTEXT WITH SUBSEQUENT EVENTS.

WITH INTRODUCTION OF TACTICAL FORCES INTO THE VIETNAM CONFLICT IN 1964, THE REQUIREMENT FOR A COMBAT RECOVERY FORCE WAS BROUGHT PAINFULLY TO LIGHT. THE DECREASE IN RESCUE AND RECOVERY FORCES ALONG WITH THE ELIMINATION OF THE COMBAT RECOVERY MISSION, SEVERELY REDUCED OUR RESCUE CAPABILITY IN BOTH MANPOWER AND

**SECRET**

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IN BOTH MANPOWER AND EQUIPMENT. AS A RESULT, TECHNOLOGY IN THE AREA OF PERSONNEL RECOVERY DID NOT KEEP PACE WITH THE BUILDUP AND MODERNIZATION OF TACTICAL FORCES.

WITH THE ADVENT OF THE VIETNAM CONFLICT EARLY IN 1964 WE DEPLOYED FORCES INTO SOUTHEAST ASIA ON A TDY BASIS. AS RESOURCES WERE EXTREMELY LIMITED, THE ONLY AIRCRAFT AVAILABLE FOR DEPLOYMENT WERE HU-16s AND A FEW UNARMORED, LIMITED RANGE HH-43Bs, WHICH HAD BEEN PROCURED STRICTLY FOR LOCAL CRASH RESCUE AND FIRE SUPPRESSION. TO MEET COMBAT RECOVERY NEEDS, TWELVE OF THE HH-43Bs WERE MODIFIED ON A PRIORITY BASIS FOR OPERATION IN A SMALL ARMS ENVIRONMENT. HOWEVER, WITH THE EXTENSION OF TACTICAL AIR ACTIVITIES INTO NORTH VIETNAM AND LAOS, THE REQUIREMENT FOR COMBAT RECOVERY FAR EXCEEDED THE RANGE AND CAPABILITIES OF THESE AIRCRAFT. AS A DIRECT RESULT OF THE NEED FOR ADDITIONAL COMBAT RECOVERY CAPABILITY, DEVELOPMENT AND PRODUCTION OF A NEW HELICOPTER, THE HH-3 WAS SHARPLY ACCELERATED.

Slide 6  
Force  
Buildup  
00095

THIS SLIDE DEPICTS OUR BUILDUP OF FORCES IN SOUTHEAST ASIA. DURING THE INITIAL PHASES IN 1964 THROUGH 1965 WE DEPLOYED OVER 1000 PERSONNEL (BOTH AIRCREWS AND SUPPORT PERSONNEL) ON A TDY BASIS. TO DO THIS, IT WAS NECESSARY TO INACTIVATE 10 STATESIDE LOCAL BASE RESCUE DETS. IT WAS DECEMBER 1965

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WHEN OUR FIRST HH-3

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WHEN OUR FIRST HH-3 "JOLLY GREEN GIANT" HELICOPTERS REACHED SOUTHEAST ASIA. THE HH-3 WAS THE FIRST HELICOPTER TO HAVE AN INFLIGHT REFUELING CAPABILITY, AND VASTLY INCREASED THE RANGE OF OPERATIONS THAT IS SO ESSENTIAL TO RESCUE EFFORTS IN NORTH VIETNAM. AT THE PRESENT TIME WE HAVE A TOTAL OF 32 HH-43Bs and Fs; 11 HC-130Ps; 22 HH-3Es, AND 6 HH-53s ASSIGNED TO SOUTHEAST ASIA. THIS LATTER AIRCRAFT, THE HH-53, IS A FOLLOW ON DEVELOPMENT OF THE ORIGINAL "JOLLY GREEN GIANT" AND GIVES US MUCH MORE LIFT, RANGE, AND ARMOR CAPABILITY IN THE COMBAT ENVIRONMENT OF SOUTHEAST ASIA.

Slide 7  
Wartime  
Mission  
0142

IT IS INTERESTING TO NOTE, THAT NOT UNTIL MARCH 1965 WAS OUR WARTIME MISSION "TO PROVIDE TRAINED AND EQUIPPED COMBAT READY SEARCH AND RESCUE UNITS" REINSTATED.

Slide 8  
SEA Org.  
Chart  
00143

IN 1964 WE BEGAN REPLACEMENT OF THE TDY UNITS WITH PCS ASSIGNMENT OF BOTH PEOPLE AND EQUIPMENT. THIS CHART DEPICTS OUR PRESENT ORGANIZATIONAL STRUCTURE IN SOUTHEAST ASIA. ONE IMPORTANT FEATURE TO BE POINTED OUT IS THAT THE COMMANDER OF THE 3rd ARRG, WEARS A NUMBER OF HATS: FIRST, HE IS COMMANDER OF ALL ARRS FORCES IN SOUTHEAST ASIA, AND ACTS AS ADVISOR TO THE 7th AF COMMANDER ON ALL SAR

MISSIONS. SECOND, HE IS A

**SECRET**



MISSIONS. SECOND, HE IS A DIRECTOR ON THE 7th AF STAFF AND, AS THE AEROSPACE RESCUE DIRECTOR AT TAN SON NHUT, IS THE CHIEF OF THE JOINT SEARCH AND RESCUE CENTER.

HERE IS HOW THE SYSTEM OPERATES. THE JOINT SEARCH AND RESCUE CENTER (JSARC) AT TAN SON NHUT, AND ITS SATELLITE RESCUE COORDINATION CENTERS (RCCS) LOCATED AT UDORN AB IN THAILAND AND MONKEY MOUNTAIN NEAR DA NANG IN SOUTH VIETNAM, ARE LINKED VIA TELE-COMMUNICATIONS AND MULTIPLE HF SINGLE SIDE BAND RADIO WITH THE AIR RESCUE HC-130P AIRBORNE MISSION CONTROL AND HELICOPTER REFUELER AIRCRAFT. THESE AIRCRAFT OPERATE ON DAWN TO DUSK ORBIT OVER THE GULF OF TONKIN AND OVER THE NORTHEASTERN THAILAND/LAOTIAN BORDER. THESE SUB-CENTERS ARE LINKED IN THE SAME MANNER WITH NAVAL SAR FORCE CONTROL ABOARD THE MISSILE DESTROYER ON STATION IN THE NORTHERN GULF OF TONKIN. FURTHER, THE RESCUE CONTROL CENTERS ARE CO-LOCATED WITH TACTICAL AIR CONTROL CENTERS HAVING IMMEDIATE ACCESS TO CURRENT INTELLIGENCE DATA THAT IS VITAL TO SAR TASK FORCE COMPOSITION AND COORDINATED EMPLOYMENT OF RESCUE FORCES. SINCE THE VERY NATURE OF THE COMBAT SAR MISSION PRECLUDES PREPLANNED EXECUTION ORDERS; THE REACTION TO RECOVERY REQUIREMENTS OBVIOUSLY TAKES FORMATION AFTER THE FACT. THE KNOWLEDGE THAT AN AIRCRAFT IS DOWN

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MAY EMANATE FROM MANY

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MAY EMANATE FROM MANY, AND OFTEN VARIED, SOURCES SUCH AS A WINGMAN, A GROUND SIGHTING, ETC.

Slide 9  
Helicopter  
Concept of  
Operation  
00098

NOW LET'S LOOK AT HOW OUR FORCES ARE UTILIZED. EMPLOYMENT OF RESCUE FORCES IN SUPPORT OF COMBAT OPERATIONS IN SOUTH-EAST ASIA IS PREDICATED ON ESTABLISHING THE SAR/ACR FORCE IMMEDIATELY ADJACENT TO THE OBJECTIVE AREAS ALONG SPECIFIED TACTICAL AIRCRAFT AREAS OF OPERATION. PRIOR TO AERIAL REFUELING, PREPOSITIONING OF THE HELICOPTER FORCES WAS DEPENDENT SOLELY UPON THE AVAILABILITY OF FORWARD OPERATING BASES, AND COMBAT AIRCREW RECOVERY CAPABILITY WAS LIMITED BY THE HELICOPTER FUEL RANGE. AS A RESULT, REACTION TIMES IN RESPONSE TO MISSIONS DEEP INTO NVN WERE ADVERSELY AFFECTED.

THESE LIMITATIONS HAVE NOW BEEN OFFSET BY THE HELICOPTER AND TANKER TEAM. CURRENTLY RESCUE EMPLOYS THE HH-3E AND HH-53 ON DAILY AIRBORNE ALERT IN THE GULF OF TONKIN, AND ALONG THE LAOTIAN BORDER. THESE HELICOPTERS ESTABLISH ORBITAL TRACKS IMMEDIATELY ADJACENT TO NVN AND IN CLOSE PROXIMITY TO STRIKE AIRCRAFT PENETRATION AND WITHDRAWAL ROUTES. THE DURATION OF THESE ORBITS <sup>IS</sup> ARE ESTABLISHED TO PROVIDE MAXIMUM SAR COVERAGE AND IMMEDIATE RESPONSE TO ACR REQUIREMENTS DURING

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PEAK STRIKE PERIODS.

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Slide 10  
Team Con-  
cept  
00075

PEAK STRIKE PERIODS. THEY CAN BE EXTENDED AS MISSION REQUIREMENTS DICTATE, BY IN-FLIGHT REFUELING, WITHOUT COMPROMISING THE RADIUS OF ACTION OF THE HELICOPTER. WHEN RESPONDING TO AN ACR MISSION, THEY WILL BE REFUELED IMMEDIATELY PRIOR TO THE MISSION, DURING PENETRATION, AND UPON RETURN FROM NVN. THESE OPERATIONAL CONCEPTS, PROVIDE MAXIMUM EXTENDED RANGE TO OUR HELICOPTERS.

Film  
Aerial  
Refueling

AT THIS TIME I WOULD LIKE TO SHOW YOU A SHORT FILM CLIP OF THE HC-130 AND HELICOPTER REFUELING OPERATION.

BY COMBINING THE CAPABILITIES OF THE HC-130P LONG RANGE TANKER AIRCRAFT AND THE HELICOPTERS INTO A RECOVERY TEAM, IT HAS PRODUCED A QUANTUM JUMP IN RESCUE CAPABILITIES AND OPERATIONAL CONCEPTS. THIS NEWLY ACQUIRED CAPABILITY IS NOW BEGINNING TO PROVIDE COMBAT RESCUE THE FLEXIBILITY OF OPERATIONS TO REACT TO THE LONG RANGE - HIGH ALTITUDE - AND RAPID REACTION REQUIREMENTS.

Slide 11  
HH-43B/F

TO SUPPLEMENT OUR SOUTHEAST ASIA ACR CAPABILITY, HH-43B AND F MODELS PROVIDE LOCAL AIRCREW RECOVERY AND AIRBORNE FIRE SUPPRESSION CAPABILITY AT 14 AIR BASES IN SOUTH VIETNAM AND THAILAND.

THE RESOURCES I HAVE MENTIONED THUS FAR REPRESENT THE USAF

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PRIMARY SAR FORCE AND ARE



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PRIMARY SAR FORCE AND ARE SUPPORTED BY TACTICAL FIGHTER AIRCRAFT PROVIDING "RESCAP" OR MIG COVER, AND "RESCORT" OR GROUND FIRE SUPPRESSION. THE OPERATION OF THIS RELATIVELY SMALL FORCE MUST BE VIEWED AS A TEAM EFFORT AND, IN ACTION TOGETHER, FORM THE SAR TASK FORCE.

PRIMARY NAVAL SAR FORCES ARE COMPRISED OF SMALL HELICOPTERS BASED ON THE FANTAIL OF THREE DESTROYERS. THESE ARE AUGMENTED BY NAVY SH-3As BASED ABOARD SMALL CARRIERS. NAVAL SAR FORCES ARE FRAGGED DAILY IN SUPPORT OF NAVAL AIR OPERATIONS. BOTH USAF AND NAVY FORCES ARE CONTROLLED OR COORDINATED BY THE JSARC.

ALL OF OUR COMBAT EXPERIENCE AND ANALYSIS HAS BORN OUT THE NEED TO DECREASE ACR REACTION TIMES. WITH THE PRESENT STATE OF THE ART IN HELICOPTER DEVELOPMENT, THIS CAN ONLY BE ACHIEVED BY AERIAL REFUELING. WHEN THE HH-53 HAS THE CAPABILITY FOR NIGHT AND LOW VISIBILITY OPERATION, IT WILL BE ABLE TO PERFORM ALL FACETS OF THE SOUTHEAST ASIA MISSION ON A 24 HOUR A DAY BASIS. EVEN SO, LACK OF SUFFICIENT ACR AIRCRAFT REMAINS A MAJOR DETERRENT TO FULFILLING THE TOTAL REQUIREMENT.

THIS IS REPRESENTED BY THE

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**SECRET**

Slide 12  
Out of Country  
Sorties  
00244

THIS IS REPRESENTED BY THE PEAK LEVEL OF CONFLICT, EXPRESSED IN OUT OF COUNTRY SORTIES OF 18,000 PER MONTH AND IN-COUNTRY SORTIES WHICH HAVE REACHED 58,000 SORTIES PER MONTH. IN SHORT, WE ARE SUPPORTING A 1968 LEVEL OF TACTICAL SORTIES

Slide 13  
In Country  
Sorties  
00243

WITH THE NUMBERS OF RESCUE AIRCRAFT PROGRAMMED FOR .965

Slide 14  
Saves

EVEN THOUGH OUR ASSIGNED AIRCRAFT HAVE BEEN FAR BELOW THE REQUIRED FORCE, WE HAVE ACHIEVED AN ENVIABLE RECORD OF COMBAT SAVES. WE HAVE JUST RECENTLY COMPLETED THE \_\_\_\_\_ SAVE OF ALL TYPES, IN THE COMBAT AREA.

Slide 15  
ARRS  
Shield  
00088

GENTLEMEN, I'LL CONCLUDE MY PRESENTATION WITH A FILM THAT DRAMATICALLY ILLUSTRATES HOW THE RESCUE FORCES ARE UTILIZED ON A TYPICAL COMBAT RECOVERY MISSION. THIS FILM WAS MADE IN SOUTHEAST ASIA AND DEPICTS THE COMMAND AND CONTROL FUNCTION, THE FORMING OF A JOINT RECOVERY TASK FORCE, PLUS THE COMPLETE SEQUENCE OF EVENTS THAT LEAD UP TO AN ACTUAL SUCCESSFUL RECOVERY. I THINK YOU WILL FIND THIS FILM POINTS OUT NOT ONLY OUR COMBAT RECOVERY CAPABILITY, BUT ALSO THE PROBLEMS WE FACE IN THE DEVELOPMENT OF MORE SOPHISTICATED

~~AIR CRAFT AND EQUIPMENT~~

**SECRET**

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AIRCRAFT AND EQUIPMENT REQUIRED TO PROSECUTE ALL FACETS OF THE COMBAT RECOVERY MISSION. WE ARE FORTUNATE IN THAT WE HAVE HIGHLY DEDICATED AND PROFESSIONAL PERSONNEL WHO ARE WELL TRAINED IN THEIR SPECIFIC SKILLS. THEY PROVIDE THE CAPABILITY TO GO BEYOND THE CONFINES OF THE MACHINE AND EFFECT A SUCCESSFUL RECOVERY UNDER A WIDE RANGE OF WEATHER AND TERRAIN CONDITIONS.

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RETURN TO:	K318.203-16 X 23 Apr 1968
Director Aerospace Studies Inst ATTN: Archives Branch Maxwell AFB, Alabama	

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CLASSIFIED BY \_\_\_\_\_  
SUBJECT TO GENERAL DECLASSIFICATION  
SCHEDULE OF EXECUTIVE ORDER 11652  
AUTOMATICALLY DOWNGRADED AT TWO YEAR  
INTERVALS DECLASSIFIED ON DECEMBER  
31, 1976

*Aerospace Rescue & Recovery Service (MAC)  
Briefing  
Global SAR Study  
23 Apr 68*

PROJECT CORONA HARVEST
DO NOT DESTROY
CATALOGED
No. 000 5823

MIRACODED
Date _____

GROUP 4  
Downgraded at 3 year  
intervals; declassified  
after 12 years

**CONFIDENTIAL**

7-3601-5

PROJECT CORONA HARVEST

DO NOT DESTROY

CATALOGED

DEPARTMENT OF THE AIR FORCE  
RECOVERY SERVICE (MAC)  
ILLINOIS 62225  
BRIEFING

No. 0005823

GLOBAL SAR STUDY (u)

23 April 68

X318.203-16

Reproduced on 23 Dec 69 by AFAR  
by AFAR  
# 100

Slide 1 GENTLEMEN

Shield  
00062

ALTHOUGH ARRS IS A RELATIVELY SMALL ORGANIZATION IN  
COMPARISON TO OTHER WORLD-WIDE COMMANDS, WE HAVE A  
UNIQUE MILITARY MISSION OF UNUSUAL SCOPE AND DIVERSITY.  
TODAY I WILL PRESENT YOU A COMPREHENSIVE OVERVIEW OF  
THE ENTIRE SPECTRUM OF THE AEROSPACE RESCUE AND RECOVERY  
SERVICE GLOBAL MISSION AND RESPONSIBILITIES.

Slide 2  
Mission  
00064

THE RESCUE MISSION IS DEFINED IN AFR 23-19. BASICALLY, THIS  
MISSION IS TO PROVIDE A WORLD-WIDE CAPABILITY TO SEARCH  
FOR, LOCATE AND RECOVER PERSONNEL AND AEROSPACE  
HARDWARE IN SUPPORT OF USAF AND OTHER DOD AEROSPACE  
OPERATIONS. THE PRIMARY MISSIONS WHICH FALL INTO THIS  
BROAD SPECTRUM MISSION STATEMENT INCLUDE:

Slide 3  
Shred-C

-MAINTAINING COMBAT AIRCREW RECOVERY FORCES FOR  
RECOVERY OF MILITARY PERSONNEL FROM HOSTILE AREAS.  
-PROVIDING AIR RECOVERY FORCES FOR MANNED SPACE  
FLIGHT OPERATIONS IN SUPPORT OF USAF/NASA MCL/APOLLO  
AEROSPACE OPERATIONS.

-PROVIDING SAR ASSISTANCE TO ICAO SIGNATORIES IN  
COMPLIANCE WITH ANNEX 12 OF THE INTERNATIONAL CIVIL

AVIATION ORGANIZATION

24 OCT 1968

68-529

DOWNGRADED AT 2 YEAR INTERVALS  
DECLASSIFIED AFTER 12 YEARS  
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Slide 5  
Tasks  
00065

THE RESCUE MISSIONS SPECIFIED IN AFR 23-19 WHICH I COVERED EARLIER ARE FURTHER DEFINED IN THE AFM 2-36 AND SHREDDED OUT INTO THE FOLLOWING FOUR PRIMARY TASKS OR SPHERES OF OPERATIONAL ACTIVITY:

1. -PRECAUTIONARY MISSIONS WHICH INCLUDE:

A. PROVIDING ORBITS, COMMONLY REFERRED TO AS DUCKBUTTS, FOR TRANSITING JET FIGHTERS/SINGLE ENGINE RECIPROCATING AIRCRAFT OVER OCEANIC OR DESOLATE TERRAIN ROUTES OF FLIGHT. ALSO TRANSOCEANIC INTERCONTINENTAL FLIGHTS BY THE PRESIDENT OF THE UNITED STATES ~~IN THE FORCE~~ ~~ONE~~ REQUIRES RESCUE AIRCRAFT TO BE WITHIN 30 MINUTES OF ~~AF~~ ~~THE~~ AT ALL TIMES.

B. HOME STATION ~~SAR~~ ALERT WHICH REQUIRES ONE PRIMARY AND ONE BACK-UP HC/130 ~~ON~~ ALERT AT EACH DESIGNATED SQUADRON TO RESPOND TO ANY AIRCRAFT/SHIP OR OTHER SAR EMERGENCY REQUIREMENTS. THE PRIMARY ALERT AIRCRAFT IS ON 30-MINUTE RESPONSE TIME WHILE THE BACK-UP AIRCRAFT HAS UP TO 2-HRS REACTION TIME.

C. LBR, LOCAL BASE RESCUE, SUPPORT WITH HH-43B HELICOPTERS, ~~WHICH~~ PROVIDES ALERT POSTURE AT FIGHTER BASES, TO ASSIST IN CRASH RESCUE OPERATIONS FROM THE RUNWAY OUT TO 75NM FROM THE BASE. THE LBR POSTURE IS ESTABLISHED BY AF  
TO PROVIDE COVERAGE

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TO PROVIDE COVERAGE AT BASES WHERE ACCIDENT OR INCIDENT POTENTIAL ARE HIGHEST. THIS IS DETERMINED BY THE TYPE AIRCRAFT ASSIGNED AND/OR NATURE OF THE OPERATION. REQUIREMENTS ARE ESTABLISHED ON THE BASIS OF MAJOR AIR COMMAND REQUESTS AND SELECTION OF BASES TO RECEIVE/RETAIN LBR UNITS IS MADE BY HQ USAF.

D. OTHER ALERT REQUIREMENTS TO PROVIDE SAR COVERAGE AWAY FROM HOME STATION TO SUPPORT SPECIAL MISSIONS SUCH AS MANNED SPACE FLIGHT CONTINGENCY RECOVERY OPERATIONS, ETC.

2. THE PRECAUTIONARY POSTURE OF ARRS FORCES PROVIDES AN IMMEDIATE CAPABILITY FOR RESPONDING TO EMERGENCY MISSIONS. THESE EMERGENCY MISSIONS RANGE FROM JET FIGHTER AIRCRAFT DITCHING IN MID-OCEAN TO A MISSING BOMBER/TRANSPORT, ~~AIRCRAFT CREW~~, TO SHIPS AND PRIVATE VESSELS IN DISTRESS, TO PROVIDING DISASTER RELIEF TO STRICKEN AREAS, SUCH AS THE ~~RECENT~~ ARIZONA MISSION. --HERE HH-43'S PROVIDED AIRLIFT OF FOOD AND MEDICAL SUPPLIES AND EVACUATION OF NAVAJO INDIANS, ~~ISOLATED DURING THE LATE 1967 BLIZZARD.~~ --~~OR THE RESCUE~~ HH-43'S WHICH EVACUATED PERSONNEL FROM THE ITALIAN FLOODS OF 1964 FOR WHICH THE RESCUE CREW COMMANDER RECEIVED THE CHENEY AWARD FOR HIS OUTSTANDING HUMANITARIAN ACTIONS.

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3. IN THE AREA OF

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3. IN THE AREA OF SPACE OPERATIONS WE HAVE AN EVER-INCREASING REQUIREMENT. ACTUALLY, RESCUE HAS BEEN SUPPORTING SPACE RECOVERY SINCE 1958 STARTING WITH PROJECT DISCOVERER. ALL MANNED AND MOST UNMANNED SPACE MISSIONS SINCE THE START OF PROJECT MERCURY HAVE HAD INTENSIVE RESCUE ~~GLOBAL~~ SUPPORT. AS AN EXAMPLE, ARRS AIRCRAFT WERE THE FIRST TO ARRIVE ON STATION AND DEPLOY PARARESCUE PERSONNEL TO ASSIST THE ASTRONAUTS DURING RECOVERY OPERATIONS FOR BOTH MA-7 ~~WHICH~~ LANDED APPROXIMATELY 250 MILES DOWN RANGE FROM THE PLANNED LANDING AREA AND GTA-8, AS YOU RECALL, ~~WAS ACCOMPLISHED~~ ON EMERGENCY RE-ENTRY IN THE WEST PACIFIC INSTEAD OF THE PLANNED WEST ATLANTIC LANDING AREA.

4. OUR PRIMARY TASK, AND THE ONE TO WHICH WE ARE DEEPLY COMMITTED AT THE PRESENT TIME ~~IN ASIA~~, IS COMBAT AIRCRAFT RECOVERY <sup>IN SE</sup> WHICH I WILL ADDRESS IN DETAIL LATER IN THIS BRIEFING.

Slide 6 TO PERFORM THESE TASKS WE HAVE A FORCE CONSISTING OF  
Map of  
Locations: APPROXIMATELY 4900 PERSONNEL AND 275 AIRCRAFT (UE-~~7~~<sup>6</sup>)  
00066 ✓ FIXED WING - 201 ROTARY WING WHICH ARE POSITIONED TO PROVIDE  
MAXIMUM FLEXIBILITY AND CAPABILITY IN RESPONSE TO OUR  
GLOBAL MISSION RESPONSIBILITIES. OUR FORCES, AS CAN BE SEEN  
ON THIS SLIDE, ARE LOCATED IN THE CONUS, GUAM, OKINAWA,  
PANAMA CANAL ZONE, ALASKA AND FOURTEEN FOREIGN COUNTRIES.

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AS SHOWN HERE, AN

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Slide 7 AS SHOWN HERE, AN EXTENSIVE ORGANIZATIONAL STRUCTURE IS  
Org  
Structure NECESSARY TO PROVIDE COMMAND CONTROL, SUPERVISION AND  
00336 MISSION COORDINATION OF THE ASSIGNED FORCES. OUR CURRENT  
STRUCTURE CONSISTS OF <sup>104</sup>~~109~~ SUBORDINATE UNITS. IN ADDITION TO  
THE HEADQUARTERS, THERE ARE FIVE MAJOR RESCUE AND RECOVERY  
CENTERS: ONE RESCUE GROUP: 17 SQUADRONS WHICH INCLUDES ONE  
RESERVE SQUADRON, THE 305TH ARRSO, NOT SHOWN ON THIS CHART,  
WHICH WAS CALLED UP DURING THE RECENT PUEBLO CRISIS, 72  
DETACHMENTS - 66 OF WHICH ARE LBR'S, ONE HEAVY-LIFT  
HELICOPTER DETACHMENT, AND FOUR RESCUE COORDINATION  
CENTERS; AND NINE OPERATING LOCATIONS, WHOSE RESPONSIBILITIES OF  
RANGE FROM ADVISORS POSITIONS TO THE FIVE RESCUE RESERVE  
SQUADRONS -- REPRESENTATION IN THE COAST GUARD SAR SCHOOL,  
AT GOVERNOR'S ISLAND -- REPRESENTATION AT TAC/AFSTRIKE HQS,  
LANGLEY AFB, VA AND TWO SUP-RESCUE COORDINATION CENTERS  
IN SEASIA DIRECTLY RESPONSIBLE TO 3DARRGP. ADDITIONALLY,  
NOT SHOWN ON THIS CHART, THERE IS ONE PROVISIONAL SQUADRON  
~~located in~~ 6 located in  
FOR CONTROL OF ARRS FORCES IN KOREA, AND FOUR LBR PROVISIONAL  
DETACHMENTS ACTIVATED IN KOREA IN DIRECT RESPONSE TO THE  
RECENT PUEBLO CRISIS AND ARE DESIGNATED PROVISIONAL UNITS  
TO REFLECT THEIR TEMPORARY ACTIVATION STATUS. DESPITE  
THE FACT THAT ALL FIVE MAJOR REGIONAL CENTERS ARE

DIRECTLY UNDER THE

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DIRECTLY UNDER THE COMMAND CONTROL OF THIS HQ, THEIR LEVEL OF RESPONSIBILITY IN THEIR ASSIGNED REGIONS VARY ACCORDING TO THE UNIFIED/SPECIFIED COMMAND POLICY IN THE GEOGRAPHICAL AREA OF ASSIGNMENT.

Slide 8 IN THE CONTINENTAL LIMITS OF THE UNITED STATES, OR MORE  
Conus Org COMMONLY REFERRED TO AS THE INLAND REGION, THE COMMANDER  
OF RESCUE HAS BEEN APPOINTED BY THE CHIEF OF STAFF AIR FORCE  
AS THE EXECUTIVE AGENT FOR SAR UNDER THE PROVISIONS OF AFM  
64-2 (NATIONAL SEARCH AND RESCUE MANUAL WHICH IS A JOINT  
SERVICES PUBLICATION). BRIEFLY, THIS MEANS THAT WITHIN THE  
CONUS WE ARE CHARGED WITH THE COORDINATION OF ALL SEARCH  
AND RESCUE ACTIVITIES. LET ME EMPHASIZE THAT OUR MISSION  
IN THE CONUS IS COORDINATION OF ALL SEARCH AND RESCUE  
ACTIVITIES. BASICALLY, THE ACTUAL SEARCH RESPONSIBILITY  
RESTS WITH THE INDIVIDUAL STATE GOVERNMENTS. <sup>THEY</sup> ~~WHO~~ PROVIDE  
AIR AND GROUND NATIONAL GUARD, ~~CIVIL AIR PATROL~~, POLICE,  
SHERIFF, FIRE DEPARTMENTS, LOCAL SKIN DIVERS OR <sup>SOME FROM</sup> ANY OTHER  
NUMBER OF ORGANIZATIONS IN THE STATE THAT ARE CAPABLE OF  
PROVIDING SEARCH ~~CAPABILITY~~ <sup>AND</sup> ASSISTANCE. <sup>A</sup> ARRS HAS THREE  
REGIONAL CONUS CENTERS WHO ARE RESPONSIBLE FOR THE  
COORDINATION OF THE SEARCH AND RESCUE ACTIVITIES IN THEIR  
RESPECTIVE AREAS OF OPERATION, AND IN SUPPORT OF THIS  
RESPONSIBILITY, HAVE FORMULATED SAR AGREEMENTS AND

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MAINTAIN CLOSE COORDINATION

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WORKING DRAFT

MAINTAIN CLOSE COORDINATION WITH THE INDIVIDUAL STATE GOVERNMENT SAR AGENCIES TO FACILITATE THE PROSECUTION OF SEARCH AND RESCUE MISSIONS. ADDITIONALLY, THESE CENTERS HAVE ADMINISTRATIVE AND TECHNICAL CONTROL OVER <sup>32</sup> LBR DETS. THE DETACHMENTS, NORMALLY CONSIST ~~OF~~ <sup>THE</sup> 2 HH-43B HELICOPTERS AND APPROXIMATELY 11 PERSONNEL, ARE RESPONSIBLE FOR CONDUCTING RESCUE MISSIONS WITHIN A 75 NM RADIUS FROM THEIR BASE OF ASSIGNMENT, <sup>TWO</sup> IN DIRECT RESPONSE TO THE BASE COMMANDER'S RESPONSIBILITY FOR CRASH RESCUE/RECOVERY OF USAF AND OTHER DOD ~~PERSONNEL~~ PERSONNEL. THESE LBR FORCES ARE ALSO AVAILABLE TO BE CALLED ON BY THE CENTERS IN RESPONSE TO STATE GOVERNMENT SAR REQUIREMENTS.

HO ARRS ALSO HAS COMMAND, ADMINISTRATIVE, TECHNICAL AND OPERATIONAL CONTROL OVER 4 CONUS FIXED WING HC-130 SQUADRONS, THE 41ST AT HAMILTON AFB, CALIF; THE 54TH ARRSQ AT PEASE AFB, N.H.; AND THE 55TH ARRSQ AT KINDLEY AB, BERMUDA - ALL OF WHICH PROVIDE CAPABILITY TO SUPPORT USAF AND DOD ~~PERSONNEL AND HARDWARE~~ SEARCH, LOCATION AND RECOVERY REQUIREMENTS IN NORTH AMERICA, SOUTH AMERICA AND ADJACENT OCEANIC AREAS, ~~AND~~ THE 48 ARRSQ (TNG) AT EGLIN AFB, FLA. ~~WHICH~~ IS THE ARRS TRAINING SQUADRON FOR SPECIALIZED TRAINING OF

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SPECIALIZED TRAINING OF AIRCREW AND SUPPORT PERSONNEL.

Slide 9 THE NEXT AREA FOR CONSIDERATION IS THE ATLANTIC AEROSPACE  
AARRC Org

804100 RESCUE AND RECOVERY CENTER LOCATED AT RAMSTEIN AB,  
GERMANY. THIS CENTER HAS 12 LBR DETACHMENTS LOCATED  
IN THE UNITED KINGDOM, GERMANY, ITALY, SPAIN, AND TURKEY.

~~AND~~ THREE RESCUE AND RECOVERY SQUADRONS ASSIGNED AS  
FOLLOWS: 57 ARRSO, LAJES FLD, AZORES; THE 58 ARRSO,  
WHEELUS AB, LIBYA; AND THE 67 ARRSO, MORON AB, SPAIN.

ALTHOUGH ATLANTIC ARRC IS DESIGNATED A CENTER, ORGANIZATION-  
ALLY ITS FUNCTIONS AND RESPONSIBILITIES HAVE BEEN UPGRADED  
COMMENSURATE TO WING LEVEL.

Slide 10 UNITED STATES COMMANDER IN CHIEF, EUROPE (USCINCEUR) AS  
SAR  
Struct.

004105 THE UNIFIED COMMANDER IN CHARGE OF ALL U.S. FORCES IN  
EUROPE IS RESPONSIBLE FOR SAR SUPPORT OF U.S. FORCES IN  
HIS AREA BY THE AUTHORITY VESTED IN HIM BY THE JOINT CHIEFS  
OF STAFF. JCS PUB 2, ~~WHICH~~ STATES, "THE AREA COMMANDER HAS  
PRIMARY AUTHORITY FOR SAR WITHIN HIS AREA. THE AREA  
COMMANDER MAY DELEGATE SAR AUTHORITY TO SUBORDINATE  
COMMANDERS AND BY MUTUAL AGREEMENT TO COAST GUARD OR  
MILITARY COMMANDERS OF OTHER COMMANDS. THROUGH A  
FORMAL SAR AGREEMENT WITH THE COMMANDER IN CHIEF, of

U.S. FORCES, <sup>IN THE</sup> MIDDLE EAST, AFRICA, <sup>AND</sup> SOUTH OF THE SAHARA, THE U.S.  
~~COMMANDER IN CHIEF EUROPE~~  
~~COMMANDER IN CHIEF EUROPE~~ (USCINCEUR) HAS ALSO ACCEPTED

RESPONSIBILITY FOR SAR

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RESPONSIBILITY FOR SAR IN AFRICA, THE MIDDLE EAST, AND  
INDIAN OCEAN TO 90° E LONGITUDE.

THE U.S. COMMANDER IN CHIEF, EUROPE  
(USCINCEUR) IN TURN, HAS APPOINTED THE COMMANDER, UNITED  
STATES AIR FORCES, EUROPE -- (CINCSAFE) AS THE EXECUTIVE  
AGENT FOR SAR IN THE TWO AREAS OF RESPONSIBILITY.

The COMMANDER IN CHIEF, USAFE

CINCSAFE HAS FURTHER DESIGNATED THE ATLANTIC AEROSPACE  
RESCUE AND RECOVERY CENTER AS THE ~~CINCSAFE/CINCSAFE~~  
JOINT SERVICE SAR COORDINATOR. ESSENTIALLY, THIS MEANS

THE ATLANTIC CENTER  
THAT ~~ALL~~ COORDINATES AND/OR CONTROLS AND PROVIDES  
FORCES AS APPROPRIATE FOR ALL U.S. MILITARY SAR OPERATIONS  
IN EUROPE - AFRICA AND MIDDLE EAST TO 90° E LONGITUDE.

CENTER  
THE ATLANTIC ~~ALSO~~ ALSO PROVIDE SAR FORCES TO FOREIGN  
GOVERNMENT IN RESPONSE TO ANNEX 12 OF THE ~~ICAO~~ DOCUMENT  
AND OTHER ICAO NON-SIGNATORY FOREIGN GOVERNMENTS WITHIN  
CAPABILITY AT THE REQUEST OF THE FOREIGN GOVERNMENT.

ANOTHER POINT WORTHY OF MENTION IS THAT THE NATIONAL STATES  
HAVE SOVEREIGN RIGHTS WITHIN THEIR TERRITORIAL BOUNDARIES.  
ITALY, SPAIN, FRANCE, GERMANY, UNITED KINGDOM, THE BENELUX  
AND SCANDINAVIAN COUNTRIES IN PARTICULAR HAVE HIGHLY  
SOPHISTICATED AND PROFESSIONAL SAR FORCES TO MEET THEIR  
REQUIREMENTS. THESE

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REQUIREMENTS. THESE NATIONAL STATES AND OTHER ICAO SIGNATORIES IN THE EUROPEAN -- AFRICAN AND MIDDLE EAST REGIONS, IN THE MAJORITY OF INSTANCES, ARE FULLY COOPERATIVE AND RESPONSIVE TO US ~~SAR~~ PARTICIPATION IN SAR EFFORTS ORIENTED TOWARDS SEARCH, LOCATION AND RECOVERY OF USAF AND OTHER U.S. DOD OBJECTIVES. WHEN THE SAR <sup>MISSION</sup> ~~OBJECTIVE~~ IS A USAF OR OTHER DOD OBJECTIVE, THROUGH FORMALIZED AND IN SOME INSTANCES INFORMAL AGREEMENTS, THE NATIONAL STATE IN WHOSE TERRITORY THE SAR EFFORT IS BEING CONDUCTED CALLS ON U.S. SAR FORCES FOR PARTICIPATION AND ASSIGNS THESE SAR FORCES THE AREA OF HIGHEST PROBABILITY.

IN TURN, THE U.S. SAR FORCES ARE FULLY RESPONSIVE TO SUPPORTING THE NATIONAL STATE SAR AGENCIES UPON REQUEST. NUMEROUS INSTANCES OF U.S. ASSISTANCE TO FOREIGN GOVERNMENT SAR REQUIREMENTS ARE RECORDED IN THE ANNALS OF RESCUE HISTORY -- SUCH AS THE DISASTER RELIEF MISSIONS FLOWN IN SUPPORT OF ITALIAN, NORTH AFRICAN AND BENELUX FLOOD VICTIMS, PARTICIPATING IN A SEARCH FOR AND IMMEDIATE LOCATION OF A BRITISH AIRLINER THAT CRASHED IN THE AUSTRIAN ALPS,-- EVACUATION FROM ISOLATED VILLAGES OF CRITICALLY ILL-INJURED CHILDREN AND ADULTS REQUIRING IMMEDIATE MEDICAL TREATMENT, AND SO THE RECORD GOES ON AND ON.

ANOTHER PECULIARITY WHICH

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WFO 4 PAPER

ANOTHER PECULIARITY WHICH EXISTS IN THE ATLANTIC RESCUE AREA OF RESPONSIBILITY IS THE ASSIGNMENT OF SAR RESPONSIBILITY OF THE 57 ARRSQ AT LAJES FIELD, AZORES. TECHNICALLY, THE 57 ARRSQ IS THE SAR COORDINATOR FOR COMMANDER, U.S. FORCES AZORES - ~~COMUSMACV~~ - AND AS SUCH HAS THE PRIMARY RESPONSIBILITY FOR SAR IN <sup>THAT</sup> THE ~~COMUSMACV~~ AREA OF RESPONSIBILITY, WHICH ENCOMPASSES THE EAST ATLANTIC BUT EXCLUDES THE LAND AREAS OF EUROPE AND AFRICA. HOWEVER, THROUGH A JOINT AGREEMENT CONSUMMATED BETWEEN USAF AND ~~COMUSMACV~~ <sup>the Commander U.S. Forces Azores</sup>, 57 ARRSQ FORCES WILL BE MADE AVAILABLE TO SUPPORT USAF SAR REQUIREMENTS AND VICE VERSA.

Slide 11 PACIFIC AEROSPACE RESCUE AND RECOVERY CENTER LOCATED AT PAC ARRC  
00346 HICKAM AFB, HAWAII, UNLIKE HQ ARRS OR ATLANTIC, IS A UNI-SERVICE SAR CENTER FOR THE CINC, PACIFIC AIR FORCES, (CINCPACAF.) SPECIFICALLY, PARRC'S RESPONSIBILITY IS TO PROVIDE THE AIR COMPONENT SAR CAPABILITY TO THE JOINT SAR CENTER COMMANDED BY U.S. NAVY PACIFIC AS DIRECTED BY U.S. COMMANDER IN CHIEF ~~PACIFIC~~ PACIFIC, CINCPAC. HOWEVER, DUE TO THE INHERENT CAPABILITY AND POSTURE OF THE ASSIGNED PARRC FORCES, THEY SUPPORT ALL USAF AND OTHER DOD AGENCY SAR REQUIREMENTS IN THE CINCPAC AREA OF RESPONSIBILITY. PARRC HAS FIVE FIXED-WING SQUADRONS ASSIGNED, 31 ARRSQ, CLARK AFB, P.I.;

33D ARRSQ NAHA AB,

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WORKING PAPER

33D, ARRSQ NAHA AB, OKINAWA; THE 36TH ARRSQ TACHIKAWA AB, JAPAN; THE 76TH ARRSQ AT HICKAM AFB, HAWAII; AND THE 79 ARRSQ, ANDERSEN AFB, GUAM. ADDITIONALLY, THERE ARE <sup>11</sup> ~~8~~ ASSIGNED DETACHMENTS - <sup>8</sup> ~~11~~ OF WHICH ARE LBR'S AT ~~KADENA AB, OKINAWA, MISAWA AND YOKOTA AB'S, JAPAN, AND~~ ~~OSAN AB, KOREA~~. THE OTHER <sup>THREE</sup> ~~TWO~~ DETACHMENTS AT FUCHU AB, JAPAN <sup>AND OSAN KOREA</sup> AND CLARK AB, P.I. ARE SAR COORDINATION CENTERS. THE ~~164TH PROVISIONAL AEROSPACE RESCUE AND RECOVERY SQUADRON, WITH ITS 4 PROVISIONAL LBR DETACHMENTS IN KOREA,~~ ALSO ARE ASSIGNED TO PARRC.

Slide 12  
3 ARRCp  
00007

THE MOST PROMINENT UNIT ASSIGNED TO PARRC IS THE 3 ARRCp IN SEASIA. THE 7TH AF, AS USMACV SAR COORDINATOR ESTABLISHED THE JOINT SEARCH AND RESCUE CENTER (JSARC). IN ACCORDANCE WITH 7 AFM 64-2 DESIGNATES THE 3 GP AS THE JOINT SERVICES SAR COORDINATION FOR U.S. FORCES IN THE 7TH AF FLIGHT INFORMATION REGION (FIR) WHICH INCLUDES ALL OF SEASIA, AS WELL AS PERFORMING THE PRIMARY DUTY OF COMBAT AIRCREW RECOVERY. THE 3 ARRCp HAS TWO SUB-RESCUE COORDINATION CENTERS AT UDORN AB, THAILAND, AND <sup>SAN TRAP</sup> ~~MONKEY MOUNTAIN~~, RVN, <sup>and RCC's</sup> ~~THAT~~ ARE AN EXTENSION OF AND PROVIDE REAL-TIME CONTROL OF SAR FORCES TO THE 7 AF JOINT SEARCH AND RESCUE CENTER OPERATED BY 3 ARRCp AT TAN SON NHUT, ~~AB~~. THE 3 ARRCp

ALSO HAS THE 37 ARRSQ

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ALSO HAS THE 37 ARRSO HH-3E SQUADRON AT DA NANG AB, RVN FOR  
IN-COUNTRY -- GULF OF TONKIN ACR AND SAR CAPABILITY; THE  
38 ARRSO LBR HH-43 SQUADRON AT TAN SON NHUT AB, RVN, WITH  
14 LBR DETS LOCATED THROUGHOUT RVN AND THAILAND; THE  
39 ARRSO HC-130 SQUADRON AT TUY HOA RVN, AND THE 40 ARRSO  
HH-53 SQUADRON AT UDORN WITH DET 1 HH-3ES AT NAKHON  
PHANOM AB, THAILAND TO PROVIDE OUT OF COUNTRY ACR-SAR  
CAPABILITY.

*Personal  
Hand* 40

~~NOW THAT I HAVE DISCUSSED ORGANIZATION,~~ THE NEXT TOPIC IS  
AIRCRAFT, RECOVERY SYSTEMS AND THEIR CAPABILITY; BUT,  
BEFORE I ADDRESS THIS SUBJECT, LET ME DIGRESS FOR A MOMENT  
AND GIVE YOU A QUICK RECAP ON RESCUE HISTORY AND FUTURE  
PROGRAMS:

Slide 13 FROM THE INCEPTION OF RESCUE IN 1946 THROUGH THE EARLY 1960'S  
History  
00089 ARRS HAS BEEN ASSIGNED AIRCRAFT WITH LIMITED RESCUE AND  
RECOVERY CAPABILITY. STARTING WITH THE CATALINA FLYING  
BOAT (PBV) THRU SB-17'S, SC-47'S, HC-54'S AND MOST RECENTLY  
HC-97'S OUR RECOVERY CAPABILITY WAS ALMOST NON-EXISTENT.  
DURING THE PAST 15 YEARS THE RESCUE FORCE STRUCTURE  
DECREASED FROM A PEAK 50 SQUADRONS AND 12 GROUPS WITH  
12,000 PERSONNEL ASSIGNED AT THE END OF THE KOREAN  
CONFLICT, TO 11 SQUADRONS, NO GROUPS, ONLY 1400 PERSONNEL

AND 69 AIRCRAFT -

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AND 69 AIRCRAFT - NONE OF WHICH WERE HELICOPTERS.

IN 1961 RESCUE WAS ASSIGNED THE LBR MISSION WHICH WAS THE INITIAL STEP IN THE EXPANSION OF OUR GLOBAL MISSION AND RESPONSIBILITIES. THE MODERNIZATION AND EXPANSION OF RESCUE FORCE CAPABILITY WAS ACCELERATED BY PARTICIPATION IN MANNED SPACE FLIGHT RECOVERY OPERATIONS STARTING IN 1961.

HOWEVER, THE ONE MILESTONE MARKING OUR GREATEST LEAP FORWARD <sup>WAS</sup> <sup>1964</sup> OUR COMMITMENT TO THE CURRENT SEASIA CONFLICT. ~~RESCUE~~ TODAY, AS I MENTIONED EARLIER, RESCUE HAS <sup>104</sup> ~~109~~ UNITS LOCATED AROUND THE WORLD OF WHICH <sup>83</sup> ~~84~~ ARE OPERATIONAL FLYING ORGANIZATIONS, CONSISTING OF 17 SQUADRONS AND <sup>66</sup> ~~68~~ LBR DETS WITH A TOTAL UE AIRCRAFT AUTHORIZATION OF 55 HC-130'S, <sup>3</sup> ~~4~~ HU-16'S, <sup>51</sup> ~~52~~ HH-53 S/HH-3E'S AND 150 HH-43'S, PLUS 8 HC-97'S IN THE 305 ARRSO RESERVE SQUADRON RECENTLY CALLED TO ACTIVE DUTY.

FUTURE PROGRAMS, WHICH I WILL DISCUSS IN DETAIL LATER, INCLUDE: INCREASED HC-130 AND HH-53 AUTHORIZATIONS,

REPLACEMENT LBR VEHICLES, AND INTRODUCTION OF A COMBAT

AIRCREW RECOVERY SYSTEM AIRCRAFT, <sup>IT IS ALSO ANTICIPATED THAT IN THE</sup> ~~AS WELL AS ESTABLISHING~~ <sup>POST-SEA ERA</sup> ~~WILL BE ESTABLISHED~~ A CONTINGENCY RECOVERY GROUP WITH TWO SQUADRONS IN THE

CONUS TO RESPOND TO

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WORKING PAPERS

CONUS TO RESPOND TO GLOBAL CONTINGENCY OPERATIONS ~~OR~~ EXERCISES.

AT THE PRESENT TIME AND WELL INTO THE FUTURE, EMPHASIS IS BEING PLACED ON INCREASING <sup>THE GLOBAL</sup> ~~RESCUE'S~~ SEARCH, RESCUE AND RECOVERY ~~GENERAL~~ PEACE AND WARTIME CAPABILITY. ALTHOUGH WE WILL NEVER REACH THE ORGANIZATIONAL STRUCTURE EXPERIENCED IN THE 1950 - 1953 TIME PERIOD, OUR ABILITY TO PERFORM THE ASSIGNED GLOBAL MISSIONS HAS FAR SURPASSED ANY PERIOD IN RESCUE'S HISTORY. THIS IS PRIMARILY ATTRIBUTED TO EMPLOYMENT OF THE LBR HH-43 AND THE DEVELOPMENT OF LONG-RANGE, HEAVY LIFT HH-3E/HH-53 HELICOPTERS.

Slide 14  
Saves  
00090

THE HISTORICAL COMPARATIVE ANALYSIS OF RESCUE'S SAVE STATISTICS IS SHOWN ON THIS CHART. FROM MAY 1946, THE INCEPTION OF RESCUE; THROUGH END 1964 ARRS FORCES HAVE COMPILED 3840 SAVES OF WHICH 996 WERE ACCOMPLISHED IN KOREAN OPERATIONS 1950 - 1953. ADDITIONALLY, DURING THIS PERIOD ARRS CONTRIBUTED TO 7660 SAVES BY PROVIDING MISSION CONTROL AND/OR SEARCH/RECOVERY CAPABILITY TO OTHER NATIONAL/INTERNATIONAL SAR AGENCIES. DURING THE PERIOD JULY 1964 THROUGH DEC 1966, THE ARRS SAVES INCREASED BY 1025 OF WHICH 642 WERE ACCOMPLISHED IN SEASIA OPERATIONS, <sup>DURING THIS SAVE</sup> ~~WARTIME PERIOD~~

WE

~~PROVIDED~~ ASSISTANCE TO OTHER NATIONAL/INTERNATIONAL

SAR AGENCIES IN AN

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WORKING DRAFT

SAR AGENCIES IN AN ADDITIONAL 630 SAVES. THE SIGNIFICANT POINT HERE IS THAT IN 1964 ARRS ENTERED SEASIA OPERATIONS WITH ONLY TDY HU-16'S, HC-54'S, AND HH-43'S, YET THESE FORCES SLOWLY BUILT UP AND AUGMENTED BY CH-3C HELICOPTERS THROUGH DEC 66 WERE ABLE TO ACCOUNT FOR WELL OVER 50% OF THE TOTAL ARRS GLOBAL SAVES DURING THIS ~~PERIOD~~ PERIOD. IN 1967 HC-130P'S AND HH-3E'S WERE INTRODUCED INTO THE ARRS ~~INVENTORY~~ INVENTORY AND, AS CAN BE SEEN ON THE CHART, RESCUE COMPILED 945 SAVES OF WHICH 646 WERE ACCOMPLISHED IN SEASIA ~~OPERATIONS~~. TO DATE IN 1968, ARRS HAS ALREADY ACCOUNTED FOR ~~400~~ SAVES, ~~200~~ IN SEA. THIS BRINGS THE TOTAL ARRS SAVES TO ~~1000~~ OF WHICH ~~2000~~ HAVE BEEN CONDUCTED IN SUPPORT OF COMBAT OPERATIONS, PLUS ASSISTING IN ~~8000~~ SAVES BY OTHER AGENCIES FOR A TALLY OF ~~10000~~ LIVES SAVED SINCE 1946, WHICH IN ITSELF IS QUITE AN IMPRESSIVE HISTORY. AS YOU WILL NOTE THERE ARE NO STATISTICS IN THE SAVES ASSIST COLUMN FOR 1967 ON. THIS IS A RESULT OF A CHANGE IN DEFINITION OF SAVES WHERE IN ONLY THOSE SAVES BY ARRS EQUIPMENT IS USED FOR STATISTICAL PURPOSES FOR ACCREDITING SAVES. AS A FURTHER BREAKOUT THE ACTUAL SEA SAVE HISTORY IS REFLECTED ON THIS CHART.

Slide 14a HOWEVER, OUR PRIME CONCERN IS NOT LOOKING BACK AT PAST SEA Saves

Breakout ACCOMPLISHMENTS BUT RATHER TO DEVELOP A DYNAMIC,

00085

FLEXIBLE FORCE CAPABLE OF RESPONDING TO ANY<sup>AND</sup> ALL CURRENT AND FUTURE ~~SEARCH~~ SEARCH, RESCUE AND RECOVERY

REQUIREMENTS. ~~THIS~~ THIS CAN ONLY

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WORKING PAPERS

BE ACCOMPLISHED  
~~REQUIREMENTS~~, BY EQUIPMENT MODERNIZATION AND STREAMLINING  
OUR ORGANIZATION TO KEEP PACE WITH THE CONTINUALLY CHANGING  
SCOPE AND DIVERSITY OF OUR GLOBAL MISSION RESPONSIBILITIES.

Slide 15  
HC-130  
00050

THE FIRST STEP IN DEVELOPMENT OF A TRUE GLOBAL RESCUE FORCE  
WAS REALIZED WITH THE INTRODUCTION OF THE HC-130 AIRCRAFT  
INTO THE RESCUE INVENTORY IN 1964. FOR THE FIRST TIME IN  
RESCUE HISTORY WE RECEIVED A NEW, FIRST LINE, FIXED WING,  
AIRCRAFT SPECIFICALLY EQUIPPED FOR OUR MISSION REQUIREMENTS.  
THIS AIRCRAFT WAS DESIGNED TO FLY AT HIGH ALTITUDES - CRUISE  
AT 290 KTS TAS, - CARRY A MAXIMUM GROSS WEIGHT OF 175,000 LBS  
WITH A CRUISING RANGE OF 4500NM <sup>IT IS</sup> EQUIPPED WITH SPECIALIZED  
SOPHISTICATED NAVIGATION AND ELECTRONIC SEARCH, TRACKING  
AND HOMING DEVICES -- AS WELL AS AIR-TO-AIR AND SURFACE-TO-  
AIR RECOVERY SYSTEMS. THIS AIRCRAFT PROVIDED ARRS THE  
INITIAL GLOBAL SEARCH, RESCUE AND RECOVERY SYSTEM.

Slide 16  
HC-130  
Surface  
to Air ✓  
00076

THE SURFACE TO AIR RECOVERY SYSTEM WAS DESIGNED TO ALLOW  
AN AIRCRAFT TO RECOVER PERSONEL AND MATERIEL FROM THE  
EARTH'S SURFACE. IT CAN RECOVER A MAXIMUM WEIGHT OF 500  
LBS (OR TWO 250 LB MEN) FROM ELEVATIONS BETWEEN SEA LEVEL  
AND 6000 FT. AT ELEVATIONS BETWEEN 6000 FT AND 16,000 FT IT  
IS RESTRICTED TO 250 LBS. ON 22 JUL 66 <sup>the 84th Rescue Sq</sup> ~~THE 94TH RESCUE SQ~~  
CONDUCTED THE FIRST USAF-DIRECTED MISSION UTILIZING THIS  
SYSTEM TO RECOVER AN INSTRUMENT PACKAGE FROM EASTER

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ISLAND IN THE SOUTHEAST



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WORKING PAPERS

ISLAND IN THE SOUTHEAST PACIFIC, <sup>THIS WAS</sup> IN SUPPORT OF A CLASSIFIED PROJECT. THE MISSION PROFILE WAS AS FOLLOWS:

THE HC-130 DEPARTED LIMA, PERU, FLEW 2041 NM TO EASTER ISLAND AND AIR-DROPPED THE GROUND STATION. THE PERSONNEL AT EASTER ISLAND ERECTED THE GROUND STATION IN LESS THAN 30 MINUTES. THE HC-130 RECOVERED THE INSTRUMENT PACKAGE AND RETURNED TO LIMA, PERU. THE ENTIRE MISSION WAS FLOWN IN 15 HRS, 55 MINUTES FOR A NON-STOP DISTANCE OF 4082NM. UPON LANDING AT LIMA, THE HC-130 STILL HAD APPROXIMATELY 4 HRS FUEL REMAINING. SINCE THAT TIME THIS SYSTEM HAS BEEN USED FOR TEN OPERATIONAL RECOVERIES OF HARDWARE, AND NUMEROUS TEST RECOVERIES IN CONJUNCTION WITH US NAVY AND US ARMY PROGRAMS. LET ME EMPHASIZE ~~AT THIS POINT, HOWEVER,~~ THAT THIS SYSTEM, ALTHOUGH MAN-RATED, IS CONSIDERED AN EMERGENCY RECOVERY SYSTEM. <sup>ITS</sup> ~~AND~~ AUTHORITY FOR USE FOR A LIVE PICK-UP MUST BE GRANTED BY HQ ARRS ON EACH INDIVIDUAL REQUIREMENT. TO THIS DATE, THIS SYSTEM HAS NOT BEEN EMPLOYED FOR AN OPERATIONAL LIVE PICK UP. ALTHOUGH WE HAVE THIS CAPABILITY AND EQUIPMENT ON OUR HC-130'S IN SEASIA, EMPLOYMENT OF THIS ~~RECOVERY~~ <sup>IN SEA</sup> SYSTEM IS LIMITED DUE TO DENSE JUNGLE AND HOSTILE ENVIRONMENT. <sup>At this time I'd like to show a film demonstrating a live pickup mission using equipment of two very old of which was at Brackets, the ARRS Command</sup> THE HC-130 ALSO HAS THE AIR-TO-AIR RECOVERY SYSTEM WHICH IS DESIGNED FOR MID-AIR RECOVERY OF PARACHUTED OBJECTS

FILM

Slide 17

Air/Air

00077

SECRET

WEIGHING 65 - 2500 LBS

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WORKING DRAFT

65 - 2500 LBS AT ALTITUDES BETWEEN 15,000 FT AND SEA LEVEL.

AT THE PRESENT TIME, THIS SYSTEM IS QUALIFIED FOR OPERATIONAL

USE FOR WEIGHTS UP TO 550 LBS. <sup>48 lb</sup> IN ADDITION TO THE TRAINING

<sup>HC-130'S ARE EQUIPPED WITH</sup> SQUADRON ~~AL-BEEN~~, THIS SYSTEM, <sup>in addition it is</sup> ~~IS OPERATIONAL~~ PROGRAMMED

INTO THE 41 ARRSQ, 36 ARRSQ AND 67 ARRSQ. TO DATE ARRS HAS

MADE ~~48~~ SUCCESSFUL RECOVERIES WITH THIS SYSTEM OUT OF ~~71~~

ATTEMPTS IN SUPPORT OF AIR WEATHER SERVICE, <sup>AND ATOMIC ENERGY COMMISSION</sup> CLASSIFIED

MISSIONS. THE RECOVERIES WERE ACCOMPLISHED IN AREAS

RANGING FROM ALASKA TO BRAZIL AND ARE PROGRAMMED FOR

FUTURE MISSIONS IN JAPAN AND NORWAY.

Slide 18  
Recovery  
Limita-  
tions  
00091

ALTHOUGH THE HC-130 IS A RELATIVELY HIGH SPEED AIRCRAFT WITH

LONG RANGE SEARCH AND LOCATION CAPABILITIES, IT IS

EXTREMELY LIMITED IN BOTH PERSONNEL AND HARDWARE RECOVERY

MISSIONS. BOTH THE SURFACE TO AIR AND AIR TO AIR SYSTEMS

ARE WEIGHT LIMITED IN THE RECOVERY ROLE. THE AIR TO AIR

SYSTEM CANNOT BE PRACTICALLY EMPLOYED EXCEPT ON

PREPLANNED, WELL-COORDINATED MISSIONS. THE SURFACE TO

AIR IS LIMITED IN RESPECT TO NUMBERS OF PERSONNEL WHICH

CAN BE RECOVERED AT ANY ONE TIME; THE RECOVERY TERRAIN

FEATURES AND THE PHYSICAL CONDITION OF THE RECOVEREE.

NOT TO MENTION THE <sup>MENTAL</sup> ~~PHYSIOLOGICAL~~ STATE OF THE

RECOVEREE ANTICIPATING BEING SUSPENDED BELOW AN AIRCRAFT

AT 120 MILES PER HR

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AT 120 MILES PER HR ON THE END OF A 450-FT NYLON LINE. ADDITIONALLY, THIS SYSTEM IS LIMITED IN THE MAJORITY OF THE CURRENT SEA ACR REQUIREMENTS. PINPOINT LOCATION OF THE DOWNED AIRCREW MEMBER AND ACCURATE AERIAL DELIVERY OF THE RECOVERY STATION IN THE DENSE JUNGLE TERRAIN IS PRACTICALLY IMPOSSIBLE. A FURTHER LIMITATION IN THE ACR ROLE IS EXPERIENCED WITH THE TIME REQUIRED TO ERECT THE GROUND STATION, <sup>A</sup> MARKER BALLOON WHICH COMPROMISES THE SURVIVORS POSITION AND THE EXTENDED EXPOSURE OF THE HC-130 <sup>A</sup> AIRCRAFT IN A HOSTILE ENVIRONMENT DURING SEARCH, LOCATION DELIVERY AND RECOVERY.

Slide 19  
HH-3  
00070

THESE LIMITATIONS ON THE HC-130 RECOVERY SYSTEMS LEAD US TO THE NEXT EVOLUTION IN THE ~~RESCUE~~ GLOBAL RECOVERY CAPABILITY OF THE LONG RANGE, HEAVY-LIFT HELICOPTERS. INITIALLY, ~~THE~~ ARRS RECEIVED AUTHORIZATIONS FOR CH-3C HELICOPTERS IN 1964. ~~WHICH~~, ALTHOUGH LONG RANGE IN TERMS OF ROTARY WING STATE-OF-THE-ART, <sup>THEY</sup> COULD NOT PROVIDE THE RANGE NECESSARY TO RESPOND TO THE CURRENT SEASIA OUT-OF-COUNTRY ACR REQUIREMENTS, TO PROVIDE FOR RANGE EXTENSION OF THIS HELICOPTER, MAC AND ARRS ENVISIONED THE APPLICATION OF IN-FLIGHT REFUELING FOR HELICOPTERS. THREE YEARS AGO THIS CONCEPT WAS CONSIDERED IMPRACTICAL AND IMPOSSIBLE BY MOST PEOPLE IN THE AVIATION

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PEOPLE IN THE AVIATION FIELD. HOWEVER, IN 1966 A CH-3C  
EQUIPPED WITH A DUMMY PROBE PROVED THE FEASIBILITY OF HELI-  
COPTER IN-FLIGHT REFUELING BY MAKING PRACTICE DRY HOOK-UPS  
~~FORMATION~~ FLYING WITH A ~~USMC~~ KC 130, ~~AT GUERRE-BONNE, N.C.~~  
THIS TEST PROVIDED THE IMPETUS TO MOVE AHEAD WITH A PROGRAMMED  
DEVELOPMENT OF A FULL CAPABILITY COMMONLY REFERRED TO  
TODAY AS THE "RESCUE TEAM" CONCEPT UTILIZING HC-130P TO

Slide 20 ~~PROVIDE IN-FLIGHT REFUELING FOR ARRS HELICOPTERS. THE~~  
HH3E/HC-130P  
00075 ✓ ACTUAL GLOBAL OPERATIONAL CAPABILITY OF THIS TEAM CONCEPT

Slide 21  
NY-PARIS  
00092 ✓ WAS ~~DEMONSTRATED~~ PROVEN ON 1 JUN 67, WHEN TWO ~~ARRS~~ HH-3E  
HELICOPTERS, ~~RECOVERED & REFUELED ENROUTE BY HC-130P~~

~~AIRCRAFT,~~ FLEW NON-STOP ~~MISSION~~ FROM NEW YORK TO PARIS IN  
30 HRS AND 48 MINUTES. NEEDLESS TO SAY, THIS EVOLUTIONARY  
BREAK-THROUGH HAS FOCUSED ATTENTION ON THE HELICOPTER/  
ROTARY WING AIRCRAFT AS THE PRIME GLOBAL ARRS VEHICLE.  
THIS NEW TECHNIQUE  
AND HAS REQUIRED A RADICAL REVISION IN AIR FORCE THINKING  
TO DEVELOP NEW APPROACHES IN CONCEPTUAL EMPLOYMENT OF  
THIS HIGHLY FLEXIBLE "TEAM" CAPABILITY.

OPERATIONAL EMPLOYMENT OF THE HH-3E HIGHLIGHTED THREE  
THE AIRCRAFT, THESE WERE  
SIGNIFICANT LIMITATIONS IN ~~THE RECOVERY VEHICLES~~ WEIGHT  
RESTRICTIONS, ALTITUDE LIMITATIONS, AND A RESULTANT FACTOR  
DERIVED FROM WEIGHT AND

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DERIVED FROM WEIGHT AND ALTITUDE LIMITATIONS <sup>THIS</sup> LACK OF  
GROWTH POTENTIAL, <sup>THE HH-3E BROUGHT ABOUT WHICH</sup> ~~THE NEXT STEP WAS THE~~  
~~INTRODUCTION OF THE HH-53, WHICH HAS GREATER~~

Slide 22 INTRODUCTION OF THE HH-53, ~~WHICH~~ <sup>THIS AIRCRAFT</sup> HAS GREATER  
MH53 00071 ✓ PERFORMANCE PARAMETERS AND IS CAPABLE OF SURVIVING IN A

~~AND~~  
~~SMALL ARMS/ANTI-AIRCRAFT FIRE-ARMED ENVIRONMENT.~~

~~COMPARATIVE PERFORMANCE PARAMETERS AND CONFIGURATION~~

Slide 23 OF THE HH-3E VERSUS THE HH-53 ARE SHOWN ON THIS CHART. NOTE THE  
Comparison INCREASED SPEED, RANGE AND ARMAMENT OF THE HH-53  
00093 ~~DIFFERENCE IN CONFIGURATION~~

AT THIS POINT I WOULD LIKE TO SHOW YOU A SHORT FILM THAT  
*FILM* WILL GIVE YOU A CLEARER PICTURE OF THE AERIAL REFUELING  
OPERATION, ~~PLUS THE SURFACE TO AIR RECOVERY SYSTEM.~~

Slide 24 THE ONLY REMAINING ARRS AIRCRAFT THAT I HAVE NOT MENTIONED  
HU-16 ✓ ARE: THE HU-16, THE OLD WORKHORSE OF RESCUE SINCE 1949 AND  
00067 WAS  
A VETERAN OF TWO WARS, ~~WHICH~~ GRACEFULLY RETIRED FROM  
SEPTEMBER OF THIS YEAR,  
THE ARRS INVENTORY IN ~~1970 (END OF YEAR).~~

*NEXT* LOCAL BASE RESCUE  
Slide 25 THE HH-43 ~~ARRS~~ AIRCRAFT. THIS AIRCRAFT HAS PERFORMED  
HH-43 ✓ ~~WELL~~  
00068 EXCEPTIONALLY ~~IMPORTANT SERVICE TO MANHUNT~~ IN EVERY  
PHASE OF ~~GENERAL~~ SEARCH, RESCUE AND RECOVERY MISSIONS,  
RUNNING THE GAMUT FROM DISASTER RELIEF, MERCY MISSIONS,  
LOCAL BASE RESCUE FIRE SUPPRESSION, LOGISTICAL SUPPORT IN  
DESOLATE, MOUNTAINOUS

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DESOLATE, MOUNTAINOUS REGIONS OF THE WORLD AND MOST  
RECENTLY COMBAT AIRCREW RECOVERY IN THE HOSTILE  
ENVIRONMENT OF SEA. OF THE TOTAL 2460 SAVES COMPILED BY  
ARRS SINCE DEC 1964, 924 OF THESE WERE ACCOMPLISHED BY THE  
HH-43 F/B HELICOPTERS, OF WHICH 614 WERE ACCREDITED AS  
COMBAT SAVES IN SEA. SINCE 1961 THE FIRE SUPPRESSION KIT  
WAS EMPLOYED 80 TIMES AND IS DIRECTLY RESPONSIBLE FOR 10  
SAVES.

Slide 26  
PJ  
00078

AT THIS POINT IT IS APPROPRIATE TO INTRODUCE A VERY SPECIAL  
MEMBER OF OUR RESCUE TEAM, THE FAMOUS "PARARESCUEMAN".  
REGARDLESS OF THE BUILT-IN SOPHISTICATION OF ANY MACHINE ~~OVER-~~  
~~HELY-PROGRAMMED-RESCUE~~, NO SYSTEM IS COMPLETELY  
CAPABLE OF PERFORMING THE RECOVERY MISSION WITHOUT THE  
PJ, ~~AND~~ THIS IS TRUE FOR ANY SYSTEM FROM THE SURFACE TO  
AIR, ACR HELICOPTER, UP THROUGH AND BEYOND THE  
DEVELOPMENT<sup>AND</sup> OPERATIONAL LIFE SPAN OF FUTURE COMBAT  
AIRCREW RECOVERY SYSTEMS. THE PARARESCUEMEN TRULY  
COMPLETE OUR RECOVERY SYSTEM - THEY ARE TRAINED PROFESSIONALS  
- SCUBA QUALIFIED - EXPERT MEDICAL TECHNICIANS - PRECISION  
PARACHUTISTS, AND HIGHLY PROFICIENT IN SURVIVAL TECHNIQUES.  
TO QUALIFY FOR THIS POSITION, EACH PARARESCUEMAN REQUIRES  
ONE YEAR OF SPECIALIZED TRAINING. THEY ARE THE RIGHT ARM OF  
RESCUE THAT OFFER A LATITUDE AND FLEXIBILITY OF OPERATIONS  
WHICH EXCEEDS THE ~~CONVENTIONAL~~ LIMITATIONS OF MACHINES.

REGARDLESS OF WEATHER

24

SECRET



SECRET

REGARDLESS OF WEATHER OR ENVIRONMENTAL CONDITIONS, THE  
PARARESCUE<sup>E</sup>MAN WHEN COMMITTED TO A ~~RESCUE~~ MISSION<sup>?</sup>  
~~MISSION~~; GREATLY INCREASE THE CHANCES FOR A SUCCESSFUL  
RECOVERY. WITHOUT THIS CAPABILITY COMBAT AIRCREW RECOVERY  
IN SEASIA WOULD NOT BE FEASIBLE~~;~~ PRACTICAL OR IN MOST CASES,  
POSSIBLE.

NOW THAT I HAVE DISCUSSED WHAT WE HAVE TO WORK WITH, I WOULD  
LIKE TO COVER WHERE AND HOW WE USE THE DIVERSE AND INTEGRATED  
CAPABILITIES OF OUR ASSIGNED RESOURCES IN RESPONSE TO THE  
VARIOUS GLOBAL MISSION REQUIREMENTS.

Slide 27  
MAP SEA  
00094

OUR MOST PRESSING MISSION TODAY IS COMBAT AIRCREW RECOVERY  
IN SEASIA. LET ME DIGRESS HERE FOR A MOMENT. AS I STATED IN  
THE BEGINNING OF THIS BRIEFING, ~~DURING THE KOREAN CONFLICT~~  
RESCUE WAS BUILT UP TO APPROXIMATELY 12,000 PERSONNEL, DURING THE  
IMMEDIATELY FOLLOWING THIS PERIOD, RESCUE WAS REDUCED  
~~BASED~~ TO THE ALL TIME LOW OF ~~ONLY~~ 1465 MEN AND 66 AIRCRAFT.  
THE WARTIME MISSION CLAUSE WAS WITHDRAWN FROM OUR  
MISSION STATEMENT BY HQ USAF, <sup>ALSO</sup> PREDICATED ON THE PHILOSOPHY  
THAT WARTIME SAR IS MERELY AN EXTENSION OF PEACETIME  
EQUIPMENT AND PROCEDURES. THIS, OF COURSE, IS EXACTLY <sup>100%</sup> THE  
OUT OF PHASE.  
REVERSE OF THE ACTUAL SITUATION. THIS PHILOSOPHY CREATED A  
TECHNOLOGICAL VOID IN PERSONNEL RECOVERY SYSTEMS, ~~WHICH~~ DUE  
TO LACK OF PRIORITY <sup>AND</sup> SUPPORT, <sup>RESCUE RESOURCES</sup> FAILED TO KEEP PACE WITH THE

BUILD-UP AND MODERNIZATION

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BUILD-UP AND MODERNIZATION OF <sup>THE</sup> TACTICAL FORCES. THIS VOID WAS PAINFULLY BROUGHT TO LIGHT IN 1964 WHEN TACTICAL FORCES WERE COMMITTED TO THE VIETNAM CONFLICT. INCIDENTALLY, THIS WAS NOT THE FIRST TIME THAT RESCUE HAS BEEN PLACED IN THIS UNTENABLE POSITION. BUDGETARY LIMITATIONS <sup>CONTINUALLY</sup> HAS DICTATED AUSTERE EQUIPAGE OF RESCUE ~~PERSONNEL~~ AS WAS EVIDENCED DURING THE INITIAL ~~60~~ BUILD UP IN KOREA IN 1950. WHAT RECOVERY FORCES WERE AVAILABLE WERE WIDELY DISPERSED AND OVER-COMMITTED TO NORMAL SAR REQUIREMENTS. HOWEVER, OUR NON-COMBAT EQUIPPED RESCUE AND RECOVERY FORCE WAS COMMITTED IN SEASIS TO SUPPORT TACTICAL OPERATIONS AND THE LONG HAUL WAS STARTED TO BUILD UP THE COMBAT RECOVERY CAPABILITY AS DEPICTED ON THIS <sup>NEXT</sup> SLIDE.

Slide 28  
Force  
Build-up  
00095

DURING THE INITIAL PHASES OF RESCUE BUILD-UP IN SEASIA (1964 - 1965), WE DEPLOYED OVER 1000 PERSONNEL (AIRCRAFTS AND SUPPORT PERSONNEL), ON A TDY BASIS, PRIOR TO THE ESTABLISHMENT OF THE PCS DEPLOYMENT. TO DO THIS, STATESIDE LBR DETACHMENTS WERE INACTIVATED AND DEPLOYED TO SEA. BY 1966 ARRS HAD A FULL PCS FORCE IN SEA. TODAY ARRS HAS THE FOLLOWING FORCES IN SEA.

32 HH-43D/T ASSIGNED TO 14 DETS OF 38 ARRSQ THROUGHOUT RVN AND THAILAND.

11 HC-130P - ASSIGNED TO 39 ARRSQ, TUY HOA AB, RVN, WHICH PROVIDE CROWN COVERAGE

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PROVIDE CROWN COVERAGE (~~UNSUBST~~) FOR STRIKE AIRCRAFT,  
AIRBORNE SAR MISSION COORDINATOR, COMMUNICATIONS RELAY  
BETWEEN THE JSARRC AND ACR FORCE, AND IN-FLIGHT REFUELING  
FOR HH-3E/HH-53 ACR AIRCRAFT,

22 HH-3E - 14 ASSIGNED TO 37 ARRSQ, DANANG AB, RVN  
8 ASSIGNED TO DET 1, 40 ARRSQ, NAKHON PHANOM AB,  
THAILAND

6 HH-53 - ASSIGNED TO 40 ARRSQ UDORN AB, THAILAND

SLIDE 29  
DECORATIONS  
00087

UNDER THE CONTROL OF THE <sup>AT</sup>  
THESE FORCES ~~COMMANDED BY COL LEAKE, CDR, 3 ARRG~~ TAN  
SON NHUT ~~AB, RVN~~. HAVE REVOLUTIONIZED COMBAT AIRCREW  
RECOVERY, <sup>THEY</sup> ~~AND AMONG THEM~~ HAVE EARNED ~~THE~~ DECORATIONS

SLIDE 30  
DECORATIONS  
00087

SINCE THE BEGINNING OF THEIR COMMITMENT IN 1964 WHICH IS  
MORE DECORATIONS THAN ANY OTHER ~~US~~ ORGANIZATION IN THE HISTORY  
OF OUR US AIR FORCE.

~~READ PROCEEDING~~

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Slide 29A THE HH43'S ASSIGNED ~~POSTURES~~ THROUGHOUT VIETNAM AND THAILAND, HH43 SEA

Posture 00096 ALTHOUGH EXTREMELY LIMITED IN RANGE, HAVE PROVEN TO BE A

WORKHORSE. ORIGINALLY 12 OF THESE AIRCRAFT WERE COMBAT CONFIGURED WITH DASH 11 ENGINES, ARMOR PROTECTION AND THE NEW RESCUE HOIST - AND DESIGNATED COMBAT AIRCREW RECOVERY VEHICLES. HOWEVER, ~~TRUE TO THE MOTTO OF ARRS "THAT OTHERS MAY LIVE"~~ <sup>THE</sup> TOTAL HH43 FORCE ~~IN SEAS~~ HAS SHARED IN

PERFORMING SOME OF THE MOST DRAMATIC, PERILOUS COMBAT RECOVERY MISSIONS RECORDED IN THE ANNALS OF THE US AIR FORCE. DAILY, HQ ARRS RECEIVES COMBAT MISSION REPORTS EXTOLLING THE EXPLOITS OF THE HH43 CREWS OPERATING <sup>UNDER ADVERSE CONDITIONS</sup> ~~IN THE HAZARDOUS HOSTILE ENVIRONMENT~~ TO ACCOMPLISH THE MISSIONS IN THE REPUBLIC OF

VIETNAM AND THAILAND. THE MISSIONS VARY FROM THE STANDARD <sup>STAIR</sup> ~~LOW-LEVEL~~ ALERT MISSION, TO RESCUING AIRCREW AND GROUND FORCES FROM LOCAL COMBAT AREAS. ~~OFTEN WHILE UNDER HEAVY~~

~~THE HEAVY GROUND FIRE~~ MEDICAL EVACUATION OF WOUNDED ~~PERSONNEL~~ <sup>IS FREQUENTLY ACCOMPLISHED WHILE UNDER HEAVY FIRE FROM THE VICTORIAN</sup> PERSONNEL ~~TO SUSTAIN MEDICAL FACILITIES~~. ONE SUCH MISSION

EARNED AIRMAN PITSENBARGER THE SECOND HIGHEST AIR FORCE AWARD FOR BRAVERY, <sup>HE WAS AWARDED</sup> THE AIR FORCE CROSS POSTHUMOUSLY. AMN PITSENBARGER, A 20-YR OLD PJ ASSIGNED TO THE HH-43BET 6, 38

ARRIVED AT BENTHA, ~~AND~~ WENT TO THE AID OF A BATTERED ARMY UNIT, SURROUNDED BY VIET CONG. HE HELPED EVACUATE WOUNDED SOLDIERS UNTIL THE HH43 WAS FORCED TO LEAVE THE AREA DUE TO SEVERE GROUND FIRE, AMN PITSENBARGER REMAINED WITH THE

5

SECRET

SECRET

SURROUNDED ARMY UNIT

23

SECRET

SURROUNDED ARMY UNIT TO TREAT THE UNEVACUATED WOUNDED. THROUGHOUT THE NIGHT AMN PITSENBARGER APPLIED HIS SKILLS TO SAVING LIVES AND PASSING AMMUNITION AND WEAPONS FROM THE WOUNDED TROOPS TO THE DEFENDERS. THE NEXT DAY, WHEN THE HH43 RETURNED TO THE SITE, AMN PITSENBARGER HAD PAID THE ULTIMATE PRICE IN THE EFFORT TO SAVE OTHERS.

Slide 30  
Past  
Concept  
of OPS  
00097 ✓

THE LONG RANGE, OUT OF COUNTRY ACR CAPABILITY, PRIOR TO THE INTRODUCTION OF THE HC130P HELICOPTER TEAM ~~WFOFSEA~~ WAS PROVIDED BY HU-16'S, ~~AND~~ HC-54'S ~~CROWN CORNETS~~ AND CH3C HELICOPTERS. THE HU-16 DID PROVIDE A LIMITED, BUT VALUABLE, ACR CAPABILITY IN THE GULF OF TONKIN AND HAS BEEN <sup>CREDITED</sup> ~~ACCREDITED~~ WITH 47 COMBAT SAVES. HOWEVER, THE NORTHERN SECTIONS OF THE NORTH VIETNAM LAND MASS WERE PRACTICALLY INACCESSIBLE TO THE CH3C, THEREBY ALMOST NEGATING ANY POSSIBILITY OF RECOVERING ANY AIRCREW DOWNED NORTH OF THE HANOI-HAIPONG ~~LANDMASS~~ AREA. EVEN WITH THE INTRODUCTION OF THE HC-130H IN THE AREA IN 1966, THE ACR CAPABILITY DID NOT INCREASE DUE TO THE LIMITED APPLICATION OF THE SURFACE TO AIR RECOVERY SYSTEM. THE ONLY PRACTICAL BENEFIT DERIVED FROM THE FIXED WING FORCE, ASIDE FROM THE GULF OF TONKIN ACR CAPABILITY, WAS IMPROVED AIRBORNE MISSION COORDINATION.

HOWEVER, TODAY WITH

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WCD

Slide 3) HOWEVER, TODAY WITH THE ADVENT OF THE "TEAM CONCEPT" ARRS  
Current  
Concept  
00084  
FORCES IN SEA HAVE DEVELOPED A ~~RESCUE~~ FLEXIBLE ACR  
CAPABILITY WHICH PERMITS  
~~OPERATION CAPABLE~~ <sup>MOST</sup> OF RESPONDING EFFECTIVELY TO ANY RECOVERY  
REQUIREMENT IN THE THEATER.

SLIDE 31 ON THIS CHART WE HAVE PORTRAYED THE DAILY ~~RESCUE~~ MISSION  
CURRENT  
CONCEPT  
00084  
PROFILES. THE GULF OF TONKIN COVERAGE IS PROVIDED DAILY  
BY ~~RESCUE~~ HH-3E'S FROM DANANG <sup>THE 37<sup>th</sup> AT</sup> ~~ADDITION~~. TO PROVIDE ADEQUATE  
COVERAGE, TWO HH3E'S ASSUME DAWN TO DUSK STRIP ALERT AT  
QUANG TRI, ~~ONE~~ ONE HH3E IS ON STRIP ALERT AT DANANG, AND  
SINGLE HH3E'S ARE FRAGGED TO PERFORM TWO ORBITS PER DAY  
BETWEEN THE HRS OF 2400Z AND 0800Z. THE INLAND ACR HELICOPTER  
COVERAGE IS PROVIDED BY HH53'S AND HH3'S. THESE HELICOPTERS  
UNTIL RECENTLY HAVE BEEN SCHEDULED IN PAIRS TO OPERATE FROM  
FORWARD OPERATING LOCATIONS <sup>OR</sup> LIMA SITES - IN LAOS. ~~TO~~ THEY  
<sup>PROVIDED</sup> STRIP ALERT <sup>OR</sup> ORBIT IN SUPPORT OF STRIKE AIRCRAFT.  
~~THE~~ <sup>THE</sup> ORBITS ARE ESTABLISHED TO PROVIDE ~~RESCUE~~ <sup>HELICOPTERS</sup> ON STATION  
DAILY DURING PERIODS OF HIGH DENSITY STRIKES. HOWEVER, MOST  
LIMA SITES IN LAOS HAVE ~~BEEN~~ <sup>BEEN</sup> RECENTLY ~~OVERRUN~~ <sup>OVERRUN</sup> BY ~~THE ENEMY~~ <sup>HOSTILE FORCES</sup>  
~~THE ENEMY~~, THEREBY DENYING THE RESCUE  
HELICOPTERS USE OF THESE SITES EXCEPT FOR ACTUAL EMERGENCY  
CONDITIONS, AND THEN ONLY DURING DAYLIGHT HOURS. THE HC130'S  
ARE FRAGGED DAILY FOR DAWN TO DUSK ORBITS IN LAOS AND  
MORNING AND AFTERNOON ORBITS <sup>IN</sup> ON THE GULF OF TONKIN. THE

PRIMARY FUNCTIONS OF

SECRET SECRET



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WORKING DRAFT

PRIMARY FUNCTIONS OF THE ~~HH~~ 130 ARE TO PROVIDE AIRBORNE  
MISSION COORDINATION<sup>AND</sup> CONTROL AND REFUELING FOR THE ~~AAH~~  
HELICOPTERS.

Slide 32  
Concept  
of Ops  
Route  
Profile  
00098 ✓

TYPICAL DAILY PROFILES FOR BOTH THE INLAND AND OVER-WATER ACR  
HELICOPTER ORBITS ARE DEPICTED ON THIS CHART. FIRST LET'S  
DISCUSS THE GULF OF TONKIN ~~AAH~~ COVERAGE.

THE HH3E PERFORMING ORBIT IN THE GULF OF TONKIN AREA IS  
USUALLY ESCORTED BY USN ~~AAH~~ AIRCRAFT AND IS REFUELED BY  
EITHER <sup>130's</sup> ~~HH3E~~ AT PREDESIGNATED TIMES<sup>OR</sup> LOCATIONS OR <sup>BY</sup> USN VESSELS  
ON STATION IN THE GULF. <sup>THIS PROVIDES</sup> ~~THEREBY OBTAINING~~ EXTENDED RANGE<sup>AND</sup> TIME  
ON STATION AND EXCELLENT OFF-SHORE ACR CAPABILITY. CONSIDERING  
THAT ONLY ONE HH3 ~~IS ON STATION~~ <sup>IS ON ORBIT</sup> AT A TIME IN THE GULF, REQUIREMENTS  
TO PENETRATE THE NVN COAST LINE ~~REQUIRES~~ <sup>THE TASK IS</sup> ESTABLISHMENT OF AN ACR TASK FORCE, ~~WHICH~~  
CONTAINS AT LEAST TWO HH3E'S OR ONE HH3E AND <sup>AS WELL AS</sup> USN ~~SWEEP-SEARCHED~~  
HELICOPTER<sup>AS WELL AS</sup> RESCORT AND RESCAP AIRCRAFT. IN MANY INSTANCES,  
THE SOPHISTICATED COASTAL DEFENSES OF NVN CONSISTING OF  
~~IMMEDIATE FIRE CAPABILITY AND ANTI-AIRCRAFT FIRE~~  
<sup>PRECLUDE</sup> ~~TO SAM CAPABILITY~~ WOULD PREVENT ANY ACR TASK FORCE FROM  
PENETRATING THE AREA.

PRIOR TO THE LOSS OF LDMA SITES IN LAOS, THE INLAND, OUT OF  
COUNTRY ACR MISSIONS

SECRET SECRET

SECRET

WORKING DRAFT

COUNTRY ACR MISSIONS WERE CONDUCTED BY HH3E'S AND HH53'S.  
STAGED THE WERE  
THEY SCRAMBLED FROM LIMA SITES ~~RESCUE SITES~~ AND REFUELED BY  
130 IN ORDER  
~~THEY~~ CROWN AIRCRAFT ~~AS REQUIRED~~ TO INSURE MAXIMUM  
TIME ON STATION AND EXTENDED RANGE FOR RESPONSE TO DEEP  
AND  
PENETRATION, LONG ENDURANCE MISSIONS.

DAILY ONE HH53 AND ONE HH3E WERE LAUNCHED FROM THEIR LIMA  
SITES TO ESTABLISH ORBIT IMMEDIATELY ADJACENT TO NVN TO BE  
ON STATION AT TIME <sup>OVER</sup> ON TARGET FOR THE STRIKE AIRCRAFT. THIS  
PROVIDED STRIKE FORCE COVERAGE FROM 15 MINUTES BEFORE TARGET  
~~WAS TO BE STRUCK UNTIL THE ON TARGET TIME 30 MIN.~~  
TIME TO 30 MINUTES AFTER, AT WHICH TIME THE HELICOPTERS  
~~WERE TO BE RECOVERED AT THE LIMA SITES.~~ THE OTHER HH53  
RECOVERED AT THE LIMA SITES.  
AND HH3E AT THE LIMA SITES MAINTAINED A STRIP ALERT POSTURE.

IN THE EVENT A MISSION BROKE DURING THE ORBIT PERIOD, THE  
STRIP ALERT HELICOPTER WAS SCRAMBLED TO THE VICINITY AND  
USED AS HIGH BIRD. IF THE MISSION BROKE WHILE BOTH THE  
HELICOPTERS WERE ON STRIP ALERT, BOTH WERE SCRAMBLED -  
ONE AS HIGH BIRD, THE OTHER AS LOW BIRD.

NOW THAT THE LIMA SITES HAVE BEEN DENIED TO RESCUE FORCES  
EXCEPT FOR EMERGENCY REQUIREMENTS, THE TASK OF PROVIDING  
ACR COVERAGE FOR TACTICAL FORCES IN LAOS AND NVN HAS BEEN  
COMPOUNDED, <sup>HOWEVER</sup> <sup>DUE TO</sup> NOT BEYOND <sup>DUE TO</sup> THE CAPABILITY OF RESCUE-SCADA  
~~FORCES - SINCE THE~~ THE IN-FLIGHT REFUELING TEAM  
CONCEPT. ONE YEAR AGO - PRIOR TO THE INTRODUCTION OF INFLIGHT

SECRET

REFUELING - DEEP  
~~RESCUE-SCADA~~ PENETRATION

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WORKING

REFUELABLE ~~HH3E/HH3C~~ <sup>REFUELABLE</sup> ~~IN CHINA~~ - DEEP PENETRATION OF NVN

~~TO EFFECT RECOVERY OF DOWNED CREWMEN~~ WAS PRACTICALLY  
IMPOSSIBLE WITHOUT USING EN ROUTE SITES FOR LANDING AND

REFUELING. ~~AND~~ <sup>AND</sup> ~~THUS THE REQUIREMENT FOR LIMA SITES WAS~~  
~~ESTABLISHED. ONCE THE INFLIGHT REFUELING BECAME~~  
~~OPERATIONAL~~ <sup>IN JULY OF 1967</sup> ~~THE LIMA SITES WERE STILL~~

UTILIZED AS STAGING BASES, ~~WHICH~~ <sup>THIS</sup> ~~REDUCED~~ <sup>THE</sup> ~~THE~~ TOTAL DAILY FLYING

TIME REQUIRED TO SUPPORT THE MORNING AND AFTERNOON ORBIT  
REQUIREMENTS. NOW THAT THE LIMA SITES ARE NOT AVAILABLE

~~CHINA~~ RESCUE FORCES STILL HAVE THE CAPABILITY ~~WHICH CAN~~

~~TO~~ <sup>TO</sup> ~~SATISFY ORBIT REQUIREMENTS IN LAOS, AND THAT IS BY~~  
~~PROVIDING~~ <sup>PROVIDING</sup> ~~TO RESCUE ORBIT AIRCRAFT DIRECT FROM HOME STATION TO~~

ORBIT POSITIONS, THE EXTENDED RANGE PROVIDED BY ~~THESE~~

INFLIGHT REFUELING STILL ALLOWS THE HIGH DEGREE OF FLEXIBILITY

TO RESPOND TO DEEP PENETRATION MISSIONS INTO THE HEART LAND

OF NVN ~~TO EFFECT RECOVERY OF DOWNED CREWMEN~~ AND

RETURN TO HOME STATION WITHOUT INTERMEDIATE STOPS FOR

REFUELING.

ANY REQUIREMENT TO PENETRATE A HOSTILE ENVIRONMENT REQUIRES

SANDY (A-1E) RESCORT AND JET RESCAP, FOR THE VULNERABLE

HELICOPTER TO STAND ANY CHANCE OF SURVIVAL AND MISSION

ACCOMPLISHMENT. BECAUSE OF THE VULNERABILITY OF THE HH3E/

HH33 HELICOPTERS, THEY ARE ALWAYS COMMITTED IN PAIRS TO AN

ACR MISSION IN

SECRET



SECRET

WORKING DRAFT

ACR MISSION IN HOSTILE ENVIRONMENTS. THE HIGH BIRD PROVIDES BACKUP CAPABILITY TO COMPLETE THE MISSION IF THE LOW BIRD RECEIVES DAMAGE NECESSITATING RETURN TO HOME BASE OR TO RECOVER THE AIRCREW IF BATTLE DAMAGE DOWNS THE AIRCRAFT. THE SANDY RESCORT PROVIDES PROTECTION AGAINST INTERDICTION BY HOSTILE GROUND FORCES BOTH ENROUTE AND SPECIFICALLY DURING THE RECOVERY OPERATIONS WHEN THE ~~RESCORTS~~<sup>HELICOPTERS</sup> ARE SITTING DUCKS FOR ANY POT SHOT FROM NVN GROUND FORCES.

JET RESCAP INSURES PROTECTION OF THE ACR TASK FORCE FROM INTERFERENCE BY NVN MIGS ENROUTE TO AND DURING RECOVERY OPERATIONS. ~~AND~~, ACCORDING TO SOME MISSION REPORTS, THE MIG THREAT IN ACR MISSIONS IS MORE THAN A POSSIBILITY. ON NUMEROUS OCCASIONS MIGS HAVE BEEN LAUNCHED AGAINST THE ACR TASK FORCE <sup>BUT</sup> ~~AND~~ FORTUNATELY, TO DATE, WE HAVE NOT SUFFERED ANY LOSSES FROM MIG ACTIONS. HOWEVER, NUMEROUS ARRS AIRCRAFT AND HELICOPTERS HAVE BEEN LOST TO HOSTILE GROUND FIRE AND OTHER ACTIONS AS SHOWN ON THIS CHART:

Slide 33  
Losses  
00086

7  
4 HH43'S;

9  
4 HH3E'S AND 4 HU16'S <sup>AND</sup> 2 HC-130'S

31  
RESULTING IN A TOTAL LOSS OF 31 ARRS MEN. OUTSTANDING

EXAMPLES OF THE DEDICATION OF ARRS PERSONNEL TO THE COMBAT RECOVERY MISSION CAN BE READILY SEEN DAILY IN THE MISSION

NARRATIVE REPORTS SUBMITTED

SECRET

**SECRET**

WORKING DRAFT

NARRATIVE REPORTS SUBMITTED BY 3ARRGP AND 7AF, ~~REVEALING~~  
~~THE HEROIC DEEDS OF OUR PERSONNEL~~. MOST MISSION REPORTS  
READ LIKE A JOHN WAYNE MOVIE -- BLOOD, GUTS AND DAMN THE  
TORPEDOES TYPE OF SCENARIO. BUT IN ALL CASES RAW COURAGE  
IN THE FACE OF IMPOSSIBLE ODDS IS IN EVIDENCE. ~~RECENTLY~~ ON  
JAN 14<sup>TH</sup> ~~1968~~ <sup>OF THIS YEAR</sup> ARRS JOLLY GREEN ~~MISSIONS~~ HELICOPTERS  
INITIATED A SUSTAINED 8-DAY SEARCH AND RECOVERY OPERATION  
IN N. VIETNAM, <sup>THE ENTIRE OPERATION WAS CONDUCTED</sup> UNDER EXTREMELY HAZARDOUS AND HOSTILE  
CONDITIONS. THE INITIAL OBJECTIVE WAS 7 AIRCREWMEN, ~~PERSONNEL~~  
FROM AN RB66, DOWNED IN THE MOUNTAINOUS NORTHWESTERN  
PANHANDLE AREA OF NVN, PRACTICALLY ON THE LAOTIAN BORDER.  
THE WEATHER WAS STRICTLY WINTER MONSOON IFR, LOW UNDERCAST,  
BROKEN OVERCAST WITH SCATTERED TO BROKEN, MOUNTAIN TOPS  
INTERSPERSED THROUGHOUT THE CLOUDS, AND SEVERE HOSTILE  
GROUND FIRE IN ALL QUADRANTS. IT ALL STARTED WHEN ARRS  
HC130'S CROWN 2 AND CROWN 5 REPORTED TWO BEEPERS. F4B'S  
AND SANDY AIRCRAFT WERE DIVERTED TO THE SCENE TO SEARCH THE  
AREA TO CONFIRM THE REPORTED BEEPERS. THE SANDIES AND F4'S  
RAPIDLY ESTABLISHED VOICE CONTACT WITH THE DOWNED RB66 PERSON-  
NEL THEREBY SUBSTANTIATING THE REPORT OF A DOWNED AIRCRAFT.  
SANDIES REMAINED IN THE AREA UNTIL BINGO FUEL TO PINPOINT THE  
SURVIVORS LOCATION BELOW THE OVERCAST. NUMEROUS BEEPERS  
WERE HEARD AND VOICE CONTACT ESTABLISHED WITH 4 PERSONNEL.

HOWEVER, WEATHER AND

**SECRET**

SECRET

WORKING PAPER

HOWEVER, WEATHER AND DARKNESS PREVENTED THE LAUNCH OF  
THE JOLLY GREEN FORCE ~~FOR SEARCH AND RECOVERY OPERATIONS.~~  
<sup>UNTIL</sup> ~~AT~~ FIRST LIGHT THE NEXT DAY, THE JOLLY GREENS, <sup>CONSISTING OF</sup> TWO HH3E'S  
AND TWO HH53'S, AND FOUR SANDIES, FULLY COCKED, WERE  
LAUNCHED UNDER MARGINAL WEATHER CONDITIONS, ~~TO THE SCENE~~  
~~OBJECTIVE AREA.~~ IMMEDIATELY VOICE CONTACT WAS RE-ESTABLISHED  
WITH 3 SURVIVORS AND THEIR CONDITION WAS REPORTED AS GOOD.  
ONCE IN THE OBJECTIVE AREA, THE LOW CEILINGS, 500 - 1500'  
UNDERCAST WITH TOPS TO 11,000' - MOUNTAINOUS TERRAIN TOPPING  
OUT AT 8000 PLUS ~~FEET~~ - AND HOSTILE ENEMY GUN FIRE PREVENTED  
THE JOLLY GREENS FROM MAKING THE RECOVERY, HOWEVER, JOLLY  
GREEN 20, AN HH3E, PROCEEDED NORTH OF THE AREA AND  
APPARENTLY FOUND A SMALL OPENING IN THE UNDERCAST AND  
ATTEMPTED TO LET DOWN TO VISUAL CONDITIONS. THE NEXT REPORT  
FROM JG 20 WAS THAT HE CRASHED AT 3500' AND WAS IN THE CLOUDS.  
JOLLY GREEN 15, ALSO AN HH3 LOW BIRD AND JG 72 HH53 HIGH BIRD  
RUSHED TO THE AREA TO ASSIST. HOWEVER, ENEMY GROUND FIRE  
INTENSIFIED AND JG 15 RECEIVED HITS BEHIND THE COCKPIT KNOCKING  
OUT THE VHF RADIO. DUE TO CONTINUING WEATHER CONDITIONS AND  
DARKNESS, JAF CMAER RECALLED THE SAR FORCE. THE SITUATION AT  
THIS TIME WAS EXTREMELY PESSIMISTIC <sup>IN SO FAR AS ANY IMPROVEMENT IN</sup> ~~ABOUT IMPROVED~~ WEATHER.

~~RECOVERED REMAINS,~~

NOW THERE WERE

SECRET



SECRET

WORKING DRAFT

~~FOR YOUR INFORMATION~~ NOW THERE WERE 12 PERSONNEL  
DOWNED IN ENEMY TERRITORY, 7 RB 66 CREWMEMBERS AND 5 JOLLY  
GREENS. LATER REPORTS CONFIRMED, THAT DURING DESCENT JG  
20 EXPERIENCED A POWER LOSS SUSPECTED TO BE CAUSED BY HOSTILE  
GROUND FIRE HITTING AN ENGINE. ON THE THIRD DAY WEATHER  
CLEARED SUFFICIENTLY TO ATTEMPT RECOVERY. JOLLY GREEN  
69 ~~WAS~~ PICKED UP 3 PERSONNEL FROM THE RB66 AND JOLLY GREEN  
71 ~~(WAS)~~ PICKED UP ALL FIVE CREWMEN FROM THE DOWNED HH3.  
DURING WITHDRAWAL JG 71 PICKED UP GROUND FIRE AND LOST #1  
ENGINE. WEATHER AGAIN BECAME A PROBLEM AND ALL SAR FORCES  
WERE AGAIN RECALLED TO HOME BASE. HOWEVER, JG71 HAD TO  
RECOVER WITH THE HH3 CREW AT A LIMA SITE DUE TO DAMAGE  
RECEIVED DURING THE MISSION. THE SEARCH FOR THE REMAINING  
FOUR RB66 PERSONNEL CONTINUED THROUGH THE 8TH DAY. WEATHER  
AGAIN BEING THE LIMITING FACTOR. THESE 4 DAYS OF SEARCH DID  
NOT TURN UP ANY ELECTRONIC OR VISUAL INDICATION OF SURVIVORS  
AND AT THE END OF THE 8TH DAY THE MISSION WAS SUSPENDED  
PENDING NEW DEVELOPMENTS. THE BOX SCORE WAS ONE HH3E LOST,  
ONE HH3E DAMAGED, ONE HH33 DAMAGED AND 8 PERSONNEL RECOVERED.  
AT THIS POINT I WOULD LIKE TO SHOW YOU A MOVIE <sup>ENTITLED "NO MAN</sup>  
~~EXPENDABLE~~ <sup>ENTITLED "NO MAN</sup> ~~EXPENDABLE~~ <sup>ENTITLED "NO MAN</sup>  
WHICH WILL TAKE YOU ON TWO ACTUAL RECOVERY  
MISSIONS ACKNOWLEDGED IN VIETNAM.  
~~THESE MISSIONS WERE CONDUCTED BY AN ENGLISH-SPAKING~~

~~THESE MISSIONS WERE CONDUCTED BY AN ENGLISH-SPAKING~~

SECRET

COMBINATION CHAIRS-SECRET

FILM

MOVIE "NO MAN EXPENDABLE"

AS YOU CAN SEE

SECRET

WORKING - 2

~~COMMUNICATIONS CHANNELS ESSENTIAL TO THE EXECUTION OF~~

~~SUCCESSFUL COMBAT AIRCREW RECOVERY PROGRAMS~~

**REDACTED**

Slide 35

Shield

00088 W

AS YOU CAN READILY DETERMINE FROM THE JOLLY GREEN 20

MISSION I BRIEFED ON BEFORE THE MOVIE. ARRS HELICOPTERS WERE/

~~THESE AND OTHER DEFENSES~~ ARE EXTREMELY LIMITED IN NIGHT AND <sup>THEIR</sup>

WEATHER ~~CONSTRUCTION~~ CAPABILITY, WHICH DECREASES THE OVERALL

EFFECTIVENESS OF THE ACR FORCE, ~~HOWEVER~~ <sup>THIS</sup> ~~AND~~ LIMITS 7 AF  
ABILITY TO LAUNCH NIGHT STRIKES AGAINST CRITICAL NVN TARGETS.

ON NUMEROUS OCCASIONS THE JOLLY GREENS ~~WERE~~ SUSPENDED

## OPERATIONS IN HOSTILE ENVIRONMENTS BECAUSE OF WEATHER

AND/OR DARKNESS EVEN THOUGH THEY HAD A LOUD AND CLEAR

"KEEPER" ~~XXXXXXXXXX~~ AND WERE IN VOICE CONTACT WITH THE

DOWNED CREWMEN. ~~THEY WERE~~ IN SOME CASES RECYCLING THE MISSION ON SUBSEQUENT DAYS.

~~XXXXXXXXXX~~, FAILED TO RELOCATE THE DOWNED AIRMEN. TO

**CIRCUMVENT THIS SHORTCOMING IN ~~AN~~ ACR CAPABILITY. AIR FORCE**

**HAS INITIATED A CRASH PROGRAM IN RESPONSE TO 7AF REQUIREMENT**

FOR DEVELOPMENT OF A FULL NIGHT RECOVERY CAPABILITY. ~~END~~

~~CONFIDENTIAL~~. THE SYSTEM TO SATISFY THE 7AF REQUIREMENT

**MUST HAVE THE CAPABILITY TO:**

36

Flight Syst.

00102

**ALLOW COVERT AND OVERT PENETRATION OF THE OBJECTIVE AREA**

UNDER MOUNTAIN CONDITIONS -

**PROVIDE SEARCH AND**

**SECRET**

SECRET

WORKING DRAFT

PROVIDE SEARCH AND LOCATION OF THE DOWNED CREWMEMBER  
USING BOTH COVERT AND OVERT DETECTION EQUIPMENT -  
PROVIDE AUTOMATIC APPROACH AND HOVER TO EFFECT RECOVERY  
IFR  
IN ~~SEA~~ CONDITIONS -

PROVIDE PICKUP OF SURVIVOR AND EXIT OF THE OBJECTIVE AREA  
<sup>AND</sup>  
UNDER NIGHT / ~~IFR~~ IFR CONDITIONS.

THE SYSTEM ENVISIONED TO SATISFY THIS REQUIREMENT IS A  
MODIFICATION TO AND IMPROVEMENT UPON THE NAVY <sup>(THAS)</sup> ~~SYSTEM~~  
INTEGRATED HELICOPTER AVIONIC SYSTEM. <sup>THIS SYSTEM</sup> ~~WAS~~ HAS UNDERGONE  
EXTENSIVE TESTING, AND APPEARS TO SATISFY THE ARRS REQUIREMENT  
WITH LITTLE MODIFICATION, ~~SYSTEM~~.

Slide 37 THIS ~~SYSTEM~~ DEVELOPMENT IS REFERRED TO AS SEAOR 114,  
SEAOR 114  
00103 (SOUTHEAST ASIA OPERATIONAL REQUIREMENT NUMBER 114). SEAOR  
ACTIONS PROVIDE SHORT TERM DEVELOPMENT OF SYSTEMS <sup>AND</sup> ~~CAPABILITIES~~  
TO SATISFY AN IMMEDIATE OPERATIONAL REQUIREMENT FOR US FORCES  
IN SEA. THE EQUIPAGE FOR SEAOR 114 WILL INCLUDE:

TERRAIN AVOIDANCE/FOLLOWING RADAR

AUTOMATIC FLIGHT CONTROL SYSTEM

DOPPLER NAVIGATION SYSTEM

NIGHT VIEW SYSTEMS

TERMINAL POINT IDENTIFICATION SENSOR (TPIS) OR TARGET  
IDENTIFICATION PRESENTATION SYSTEM (TIPS).

SECRET

THE VERTICAL SITUATION



SECRET

WORKING DRAFT

THE VERTICAL SITUATION DISPLAY OR VSD CAN BE QUALIFIED AS THE KEY TO THE NIGHT RECOVERY SYSTEM. IT IS A CATHODE RAY TUBE, ONE FOR THE PILOT AND ONE FOR THE CO-PILOT WHICH PROVIDES PERFORMANCE DATA,

Slide 38  
Contact  
Analog  
00104 ✓

TERRAIN PROFILES AND TV INTERROGATION OF THE NIGHT VIEW SYSTEM.

AS I DESCRIBE THE VARIOUS PIECES OF EQUIPMENT INCORPORATED IN SEAOR 114 I WILL SHOW THE VARIED CAPABILITIES OF THIS UNIT.

FIRST THE CONTACT ANALOG DISPLAY WHICH PROVIDES PERFORMANCE AND FLIGHT CHARACTERISTIC DATA SUCH AS AIRSPEED, HEADING, PITCH AND ROLL, ALTITUDE, STEERING VECTOR, HEADING REFERENCE, ETC. ALL NEATLY TIED INTO ONE DISPLAY FOR READY REFERENCE.

PORTIONS OF THIS DISPLAY SUCH AS THE HORIZON LINE, COMMAND STEERING VECTOR AND AIRCRAFT VELOCITY VECTOR ARE ALSO SUPER-IMPOSED ON THE TERRAIN FOLLOWING/AVOIDANCE DISPLAY TO PROVIDE STEERING, AIRSPEED AND HORIZON REFERENCES.

Slide 39  
40

TERRAIN FEATURES ON THE TERRAIN AVOIDANCE/TERRAIN FOLLOWING

Shades of  
Grey/E-SCAN

SYSTEM ARE PRESENTED EITHER IN SHADES OF GREY OR E-SCAN

00105 ✓  
00106 ✓

PRESENTATION AS SHOWN ON THIS VIEWGRAPH. EACH PROVIDE THE

VERTICAL TERRAIN PROFILE. THE SHADES OF GREY SHOW 5 TERRAIN

Slide 41  
TF/TA  
00107 ✓

PROFILES FOR VARIOUS RANGES. IT'S POSSIBLE TO OPERATE THE

TF/TA IN 4 DIFFERENT MODES.

AUTOMATIC TERRAIN FOLLOWING:

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WORKING PAPERS

AUTOMATIC TERRAIN FOLLOWING: IN THE AUTOMATIC MODE THE INTEGRATED SYSTEM AUTOMATICALLY MAINTAINS THE AIRCRAFT WITHIN PRE-SET LIMITS ABOVE THE COMMAND HEIGHT SET BY THE PILOT, WHICH MAY BE BETWEEN 100' AND 1000'. TO ALLOW THE PILOT TO MONITOR SYSTEM OPERATION, THE COMPUTER COMMAND SIGNALS ARE PRESENTED ON THE ~~VSD~~ <sup>VERTICAL SITUATION DISPLAY, OR THE</sup> ~~COMMAND~~ <sup>HORIZONTAL</sup> ~~THE~~ <sup>RADAR</sup> PRESENTS <sup>DISPLAY</sup> EITHER COMPLETE RADAR MAP INFORMATION, OR IT CAN, AT THE PILOT'S OPTION, PRESENT ONLY THAT GROUND WHICH EXTENDS ABOVE THE HORIZONTAL FLIGHT VECTOR. THE LATTER CAN BE USED FOR TERRAIN AVOIDANCE PURPOSES. EITHER A CONSTANT ALTITUDE MODE OR CONSTANT SPEED MODE CAN BE SELECTED FOR TERRAIN FOLLOWING.

MANUAL TERRAIN FOLLOWING: IN THIS MODE THE FLIGHT COMMANDS <sup>VERTICAL SITUATION DISPLAY</sup> WILL BE PRESENTED ON THE ~~VSD~~ <sup>A</sup> FOR EXECUTION BY THE PILOT. CLERK COMMANDS ARE DISPLAYED BEFORE THEY WOULD BE IN THE AUTOMATIC MODE TO ALLOW FOR PILOT RESPONSE TIME.

MANUAL TERRAIN AVOIDANCE: THIS CAN BE CARRIED OUT BY THE SELECTION OF A "SHADES OF GREY" PRESENTATION ON THE ~~VSD~~ <sup>VERTICAL SITUATION DISPLAY</sup>. THE DISPLAY PROVIDES 5 CONTOURS REPRESENTING THE PEAK ELEVATION ANGLE FOR 5 DISCRETE RANGE INTERVALS COVERING A 30° FORWARD ASPECT SECTOR.

GROUND MAPPING: THE RADAR CAN ALSO BE USED FOR GROUND MAPPING OVER EITHER A PLUS OR MINUS 45° FORWARD SECTOR OR THE FULL 360°, RANGES OF

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360°. RANGES OF 5, 10, 20 OR 30 MI CAN BE SELECTED. THIS SINGLE  
DISPLAY IS ON THE LOWER MAIN CONSOLE, HORIZONTAL RADAR  
DISPLAY UNIT. SINCE EACH PILOT HAS IDENTICAL DISPLAYS, EXCEPT  
FOR GROUND MAPPING, THEY CAN BOTH USE THE SAME MODE OR  
VARIOUS COMBINATIONS WHICH IN EFFECT MEANS THAT 3 DIFFERENT  
SITUATIONS CAN BE MONITORED SIMULTANEOUSLY. THE AUTOMATIC  
FLIGHT CONTROL SYSTEM (AFCS) CONSISTS OF A HOVER COUPLER  
USED IN CONJUNCTION WITH THE CURRENT HH53B FLIGHT CONTROL  
SYSTEM. COMMANDS FOR AUTOMATIC VERTICAL AND HORIZONTAL  
STEERING CONTROL ORIGINATE AT THE CONTROL COMPUTER AND  
ARE IMPLEMENTED THROUGH THE STICK <sup>BY</sup> ~~FROM~~ CIRCUITS.

41A2  
Slide  
Blank  
00170 ✓

<sup>AND</sup> AUTOMATIC FLIGHT CONTROL  
THE COMBINED COMPUTER ~~AND~~ SYSTEMS PROVIDE COMPLETE AUTOMATI  
FLIGHT WITH EN ROUTE NAVIGATION, TERRAIN FOLLOWING, APPROACH  
TO THE OBJECTIVE AREA, CONTROLLED DESCENT AND APPROACH  
TO HOVER AND HOVER AT PRESELECTED LOCATION AND ALTITUDE.  
ADDITIONALLY, A JOYCE STICK IS PROVIDED IN THE CABIN FOR  
VERTICAL HORIZONTAL MOVEMENT BY THE HOIST OPERATOR TO PLACE  
THE HELICOPTER EXACTLY OVER THE RECOVERY OBJECTIVE.

THE LOW LIGHT LEVEL TV AND DIRECT VIEWING DEVICE (DVD) ARE  
THE TWO TOP CONTENDERS FOR THE SEAOR 114 EQUIPAGE. BOTH  
PROVIDE EXCELLENT VIEWING UNDER EXTREMELY LOW LIGHT  
CONDITIONS SUCH AS A DARK NIGHT, NO MOON AND SCATTERED  
CLOUD CONDITIONS. UNDER THESE CONDITIONS BOTH UNITS ARE

CLAIMED TO HAVE

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WORKING DRAFT

CLAIMED TO HAVE THE CAPABILITY TO PICK OUT A MAN IN A WOODED AREA. BASICALLY, THE UNITS OPERATE ON LIGHT GATHERING AND INFRARED HEAT SOURCE INTERROGATION. THE CURRENT TREND, AS A RESULT OF EXTENSIVE TESTS ~~ON THORNTON AND AT REPRESENTATIVE~~ IS TO PROVIDE THE GIMBLE MOUNTED <sup>DIRECT VIEWING DEVICE</sup> (DVD) SCOPE IN THE CABIN SECTION FOR THE FM/HOIST OPERATOR'S USE, AND THE LLLTV IN THE COCKPIT FOR PILOT - COPILOT OPERATION.

THE ~~THORNTON~~ <sup>TERMINAL POINT IDENTIFICATION SYSTEM</sup> IS STILL IN THE CONCEPTUAL STAGES OF DEVELOPMENT. IT WILL PROVIDE RANGE AND BEARING TO THE RESCUEE. IT IS A DIRECTION FINDING UNIT WHICH UNLIKE THE PRESENT DF UNITS, CAN FUNCTION ACCURATELY AT CLOSE RANGE. IT IS ENVISIONED THAT THE ANTENNAE UNITS WILL BE INCORPORATED AS AN INTEGRAL PART OF THE ROTOR BLADE ON THE HH53. ACCORDING TO UNITED AIRCRAFT CORP (SIKORSKY DIVISION) DEVELOPMENT OF THIS SYSTEM AND INCORPORATION INTO ARRS HH53'S REQUIRED 18 - 19 MONTHS LEAD TIME.

Slide 418  
114 Equip  
00108  
CURRENTLY AIR FORCE IS PROGRAMMING EQUIPAGE OF 8 HH53'S WITH SEAGR 114 SYSTEMS, PREDICATED ON CONGRESSIONAL APPROVAL FOR FUNDING WHICH, AT THE TIME COSTS APPROXIMATELY 2.2 MILLION DOLLARS PER COPY OR 17.5 MILLION DOLLARS FOR THE <sup>UNITED AC</sup> PACKAGE. THE HAS PROGRAMMED AN 18 - 19 MONTH DESIGN,

PRODUCTION, EQUIPAGE, DELIVERY

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**SECRET**

PRODUCTION, EQUIPAGE, DELIVERY AND TEST PROGRAM AS SHOWN ON THIS CHART. THIS CHART IS PREDICATED UPON ZERO MONTH BEING THE MONTH OF CONGRESSIONAL ~~FINANCIAL~~ APPROVAL WHICH WILL BE THE GO-AHEAD FOR THIS PROGRAM:

-10 MONTHS ARE REQUIRED TO DESIGN THE SYSTEM, TOOLING, FABRICATION AND SYSTEM BENCH TEST.

-ON THE TENTH MONTH, THE SYSTEM WILL BE INSTALLED ON THE FIRST HH53C, THEREAFTER EQUIPPING ONE AIRCRAFT PER MONTH WITH THE COMPLETE SYSTEM.

-THE FIRST THREE HH53C'S WITH THIS SYSTEM ARE REQUIRED FOR THE ~~REQUIRE~~ 8 - 9 MONTH TEST AND QUALIFICATION PROGRAM.

-THE FOURTH HH53C WILL ALSO BE RETAINED TEMPORARILY BY THE CONTRACTOR TO PROVIDE MAINTENANCE AND AIRCREW GROUND AND FLIGHT TRAINING.

-THE FIFTH AND SIXTH AIRCRAFT WILL BE DELIVERED TO ARRS ON THE 16TH MONTH AND THE SEVENTH AND EIGHTH ACFT DELIVERED ON THE 17TH MONTH ALL WITH FULL SEAOR 114 EQUIPAGE. HOWEVER, UNTIL TESTING IS COMPLETED THE SYSTEMS WILL ONLY BE USED IN THE MANUAL MODE.

-THE LAST FOUR AIRCRAFT WILL BE DELIVERED TO ARRS IN THE 18TH AND 19TH MONTHS, AFTER TESTING IS COMPLETED. AT THIS TIME THE SYSTEM WILL BE FULLY QUALIFIED FOR OPERATIONAL USE IN THE FULL AUTOMATIC MODE. FOR THE SAKE OF DISCUSSION,

ASSUMING GO-AHEAD IN

**SECRET**

**SECRET**

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ASSUMING GO-AHEAD IN JULY 1968 - ~~THIS SYSTEM~~ <sup>OPERATIONALLY</sup> - THIS SYSTEM  
WOULD NOT BE QUALIFIED ~~CONCEPTUALLY READY~~ <sup>OPERATIONALLY</sup> UNTIL  
JAN 1970 ~~CONCEPTUALLY~~.

TO PROVIDE A MORE TIMELY CAPABILITY, AIR FORCE HAS APPROVED  
AN INTERIM NIGHT RECOVERY SYSTEM TO BE INSTALLED ON SIX  
HH53B AIRCRAFT FOR SEA ~~OPERATIONS~~ AND TWO HH53B AT THE  
48ARRSQ (TNG). THE INTERIM EQUIPAGE OF THE EIGHT HH53B'S  
RECEIVED CONGRESSIONAL APPROVAL OF FUNDS, WHICH IN THIS  
PROGRAM COSTS APPROXIMATELY 4.2 MILLION DOLLARS TOTAL.  
THIS SYSTEM INCLUDES ONLY:

- THE LLLTV FOR THE COCKPIT  
DIRECT VIEWING DEVICE  
-AND FOR THE CABIN
- APPROACH AND HOVER COUPLER
- JOYCE STICK

Slide 42  
Interim ✓  
00109

THIS PROGRAM WAS BASED ON A MARCH 68 GO-AHEAD AND THE  
FOLLOWING PRODUCTION DELIVERY SCHEDULE IS USED FOR PROGRAMMING

- DESIGN, TOOL AND FABRICATION REQUIRES 4 MONTHS
- ONE BOMBS FROM EGLIN MUST BE BAILED TO SIKORSKY IN AUGUST  
1968 FOR REWORK AND TEST PROGRAM WHICH WILL RUN THROUGH  
JAN 69 (10 MONTHS).

AT THE END OF 10 MONTHS THE SYSTEM WILL BE QUALIFIED AND  
SEVEN REWORKED BOMBS SENT TO THE FIELD FOR MODIFICATION OF THE  
REMAINING 3 BOMBS. (ONE TO EGLIN AND SIX TO SEA).

SIKORSKY WILL PROVIDE

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SIKORSKY WILL PROVIDE THE RETROFIT TEAM TO THE FIELD.  
THE CURRENT ESTIMATE ON RETROFIT OF THIS SYSTEM IS ~~42 DAYS~~  
15 DAYS PER KIT INSTALLATION, WHICH MEANS THAT ARRS ~~ARRS~~  
~~ARRS~~ COULD HAVE THE LIMITED NIGHT RECOVERY SYSTEM IN  
OPERATION BY FY 3/69

Slide 43  
5 SEAORS  
00587

IN ADDITION TO SEAOR 114, ARRS HAS NUMEROUS OUTSTANDING  
SEAORS WHICH WILL IMPROVE THE OPERATIONAL CAPABILITY OF  
THE SEA ~~ARR~~ FORCE. NOT ALL SEAORS RELATING TO ACR WERE  
INITIATED BY ARRS, BUT WERE DERIVED FROM REQUIREMENTS  
SPECIFIED BY OTHER AF, ARMY OR NAVY FORCES OPERATING IN  
THE THEATER. FOLLOWING, ARE SOME ACTIONS IN WHICH WE -  
RESCUE - HAVE A HIGH DEGREE OF INTEREST BECAUSE THEY HAVE  
A DIRECT BEARING ON THE COMBAT ACR MISSION. SEAOR 93 WAS  
ESTABLISHED IN JUN 67 FOR THE PURPOSE OF PROVIDING SAR  
AIRCRAFT WITH A LIMITED ECM CAPABILITY TO ALLOW PENETRATION  
OF DEVELOPED DEFENSIVE SYSTEMS OF NVN. THE ACR TASK FORCE  
~~ARRS~~ MUST IN MANY INSTANCES PENETRATE DEEP IN ENEMY  
TERRITORY TO EFFECT RECOVERY. THEREFORE SOME DEGREE OF  
PROTECTION <sup>AND</sup> ~~WARNING~~ AGAINST SAM/GCI RADAR INSTALLATIONS  
BECOMES NECESSARY. DUE TO SEVERE WEIGHT LIMITATIONS, THE  
HHS WILL PROBABLY GET ONLY AN ECM WARNING CAPABILITY. THE  
HHS HOWEVER, MAY WELL RECEIVE THE FULL COMPLEMENT OF  
BOTH ACTIVE AND PASSIVE ECM DETECTION EQUIPMENT. THE EXACT  
NATURE OF THE

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SECRET

NATURE OF THE EQUIPMENT CONFIGURATION FOR EACH AIRCRAFT  
HAVE YET TO BE DETERMINED. REASON FOR THE DELAY WAS THE  
BECAUSE ~~CORNUELL AERONAUTICAL LABS WAS COMPLETING~~ <sup>REQUIREMENT FOR</sup> A RADAR  
CROSS SECTION STUDY OF HELICOPTERS ~~FOR THE AIR FORCE~~ <sup>ACCOMPLISHED BY CORNUELL AERONAUTICAL LABS</sup>. THIS  
STUDY IS NOW COMPLETE AND EXACT CONFIGURATIONS FOR EACH  
TYPE AIRCRAFT SHOULD BE KNOWN SHORTLY. IT APPEARS THE ONLY  
PROBLEM THEN REMAINING WILL BE AVAILABILITY OF EQUIPMENTS DUE  
TO RELATIVE PRIORITIES AND HEAVY DEMAND FOR ALL AIRCRAFT. *HP*  
SEAOR 111 WAS ESTABLISHED 3 APR 67 AND PERTAINED TO 16 TYPES  
OF AIRCRAFT. ALL AIR RESCUE AIRCRAFT OPERATING IN SEA ARE  
EXPOSED TO GROUND FIRE ~~AS SOON AS~~ ON MOST SORTIES. EVEN  
ONE HIT IN A PARTIALLY FILLED FUEL CELL CAN RESULT IN A  
~~CATASTROPHIC~~ FIRE AND/OR EXPLOSION WITH A CONSEQUENT LOSS  
OF THE AIRCRAFT AND CREW. ONE SOLUTION TO THIS PROBLEM WAS  
FOUND TO BE IN FILLING THE FUEL CELLS WITH RETICULATED  
POLYURETHANE FOAM AND THIS SOLUTION HAS BEEN ADOPTED  
TO FULFILL THE REQUIREMENTS OF THIS SEAOR. THE FOAM WEIGHS  
APPROXIMATELY .27 LBS PER GAL ~~CAPACITY OF THE FUEL CELL~~ AND  
~~REDUCES USEFUL FUEL BY APPROXIMATELY 5%.~~ ALL RESCUE AIRCRAFT  
OPERATING IN SEA ARE SCHEDULED TO BE RETROFITTED WITH THIS  
MATERIAL. ~~THE~~ <sup>THE</sup> HAS ESTABLISHED PRIORITY 3 FOR THE HH3, 4 FOR THE  
HH53, 8 FOR THE HH53 AND 16 FOR THE HC-130. THROUGH IN-HOUSE  
AND AND ASSISTANCE AUXILIARY DROP TANKS OF THE HH53 HAVE  
ALREADY BEEN EQUIPPED.

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SECRET

WORKING

ALREADY BEEN EQUIPPED. SEAOR 11 WAS ESTABLISHED IN SEP 65 FOR THE PURPOSE OF PROVIDING MORE VERSATILE COMMUNICATIONS BETWEEN THE DOWNED AIRCREWMAN AND THE RESCUE VEHICLE. IT HAS THE ADVANTAGES OVER PRESENT RESCUE RADIOS OF BEING LIGHTER, SMALLER, AND MULTIPLE (FOUR) CHANNEL OPERATION AS OPPOSED TO SINGLE CHANNEL. HENCE, IT IS MUCH LESS VULNERABLE TO JAMMING. BECAUSE IT REPRESENTED AN IMPROVEMENT IN THE STATE-OF-THE-ART, MANY TECHNICAL, AS WELL AS FUNDING PROBLEMS WERE ENCOUNTERED. HOWEVER, PRODUCTION UNITS WILL BE AVAILABLE THIS MONTH STARTING AT A RATE OF 500 UNITS PER MONTH AND BUILDING UP TO 2000 UNITS PER MONTH BY AS OF SEPTEMBER 68. THE NEW RADIO IS <sup>DESIGNATED AS</sup> ~~NOMENCLATURE~~ THE AN/URC-64. #

SEAOR 46 WAS ESTABLISHED IN APR 66 AND CALLED FOR A COMBINATION DIRECTION FINDING AND RANGING SYSTEM. SUBSEQUENTLY, THE RANGING REQUIREMENT WAS DROPPED DUE TO OPERATIONAL AND TECHNOLOGY PROBLEMS. HOWEVER, IT WAS DECIDED THAT AN IMPROVED UHF-ADF BE DEVELOPED. THE NEW ADF CALLED THE AN/ARD-19 WILL REPLACE THE AN/ARA-25 IN SELECTED RESCUE/RESCORT AIRCRAFT. IT WILL BE FOUR CHANNEL ADF SO THAT IT WILL BE COMPLETELY COMPATIBLE WITH THE RADIO ~~BEING PROVIDED UNDER SEAOR 11~~. IT PROMISES IMPROVED ACCURACY <sup>SHOULD BE</sup> AND RANGE AND ~~IS~~ <sup>IS</sup> LESS VULNERABLE TO JAMMING. IT WILL SOLVE THE PROBLEM OF MULTIPLE TRANSMISSIONS ON THE SAME FREQUENCY.

FOUR SYSTEMS HAVE

SECRET



WORKING PAPER

66

Slide 44  
LER/RO  
00912 ✓

**SECRET**

SECRET

HELICOPTER WITH INCREASED RANGE/SPEED/LIFT/<sup>AND</sup>HOVER CAPABILITY. THIS PROGRAM IS RECEIVING PRIORITY TREATMENT AT ALL ECHELONS FROM HQ ARRS THRU AIR FORCE. THE LBR LOCATIONS WILL REMAIN UNCHANGED. THE REPLACEMENT AIRCRAFT, HOWEVER, WILL PROVIDE MORE FLEXIBILITY AND CAPABILITY WITH A RESULTANT MODIFICATION TO INCREASE THE SCOPE OF THE CURRENT MISSION DIRECTIVE AFR 55-18. HQ ARRS HAS PREPARED AND FORWARDED THE LBR ROC -(REQUIRED OPERATIONAL CAPABILITY) TO HQ MAC FOR COORDINATION AND PROCESSING. MAC, IN TURN FORWARDED THIS ROC TO AF FOR REQUIRED ACTION.

- THE HH-43 AUTHORIZATION STILL REMAINS AT 150 UE. <sup>THE</sup> ALTHOUGH ~~CURRENT~~ ARRS INVENTORY HAS ONLY 146 UE ASSIGNED, THE AUTHORIZATION WILL BE MAINTAINED TO REFLECT ACTUAL REQUIREMENTS, WHICH WILL BE THE BASIS FOR DETERMINING TOTAL UE AUTHORIZATIONS FOR THE LBR REPLACEMENT AIRCRAFT. AIR FORCE AND AND ARE CURRENTLY FORECASTING REPLACEMENT OF THE HH-43 BY <sup>OR</sup> FV 70. AIRCRAFT UNDER CONSIDERATION AT THIS TIME ARE THE ARMY TWIN HUEY AND THE NAVY UH-2 (TWIN SEASPRITE).

Slide 45  
Current  
Authoriza-  
tions  
00110

<sup>SEAR</sup> IN ADDITION TO RESPONSE TO ~~CHINA~~ AND THE LBR ROC ACTIONS, AIR FORCE AND AND HAVE AUTHORIZED A "QUANTUM INCREASE" IN ARRS HQ-120 AND HH-53 UE AUTHORIZATIONS IN DIRECT RESPONSE TO AIR FORCE ~~INITIATED~~ ACTIONS DATING BACK TO 1964.

AND AT THE SAME TIME.

SECRET

SECRET

AT THE SAME TIME, DICTATED A COMPARABLE DECREASE IN THE HH-3E AUTHORIZATION TO MAINTAIN AN END POSITION UE OF 56 HH-3E/HH-53. RECOGNIZING THAT THE TEMPO OF BOTH COMBAT AIRCREW RECOVERY AND MANNED/UNMANNED SPACE OPERATIONS WERE INCREASING AT A RAPID RATE, THIS HQ IN LATE 1964 DEVELOPED STUDIES TO DETERMINE FORCE REQUIREMENTS TO MEET THE EXPANDING RESCUE MISSION REQUIREMENTS. THE INITIAL STUDY, APPROVED BY THE AIR STAFF BOARD IN OCT 1965 SPECIFIED A REQUIREMENT FOR 91 UE HC-130 and 117 H-3 HELICOPTERS. ALTHOUGH THE 117 HELICOPTER REQUIREMENT SEEMED EXCESSIVE, ~~WITHIN THE~~ ~~STAFF BOARD AT THAT TIME~~, THIS FORCE LEVEL WAS REQUIRED TO PROVIDE A TRUE GLOBAL RESCUE CAPABILITY INCLUDING A TWO FRONT COMBAT RECOVERY CAPABILITY. ~~THE~~ <sup>THE</sup> OFFICE OF THE SECRETARY OF DEFENSE, DISAPPROVED THE PROCUREMENT OF THE ADDITIONAL HC-130 HE AIRCRAFT BUT DID APPROVE PROCUREMENT OF 24 H-3 HELICOPTERS. FOLLOW-UP ACTIONS IN 1966 ~~THE~~ <sup>THE</sup> PROGRAM CHANGE REQUEST AND 1967 ~~THE~~ <sup>THE</sup> AF INPUT TO THE DRAFT PRESIDENTIAL MEMORANDUM, CONTINUED TO SPECIFY THE REQUIREMENT FOR 91 UE HC-130 AIRCRAFT. ~~THE~~ DUE TO TECHNOLOGICAL ADVANCES IN HELICOPTER CAPABILITY, THE ROTARY WING REQUIREMENT WAS MODIFIED TO A TOTAL OF 74 UE HH-3E/HH-53, AND AGAIN THIS REQUIREMENT WAS APPROVED BY AIR FORCE AND FORWARDED TO OSD FOR APPROVAL AND FUNDING AUTHORIZATION. THE OSD

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SECRET

AUTHORIZATION. THE OSD APPROVED FORCE STRUCTURE IS REFLECTED ON THIS VIEWGRAPH AND WILL BE PUBLISHED IN THE USAF PROGRAMMIN DOCUMENT 70-2 AND RELATED PROGRAMMED ALLOCATIONS DOCUMENT 70-2.

- IN FY 2/70 OUR HC-130 UE INCREASES TO 63, AND FUTHER INCREASES TO THE END POSITION OF 67 IN FY 8/71, INCREASING OUR OVERALL HC-130 UE BY 12 WITHIN A SIX MONTH PERIOD.

- THE HH-53 AUTHORIZATIONS HAVE BEEN INCREASED TO 38 UE BY FY 1/70, AND AS I MENTIONED A MOMENT AGO, INCREASE IN THE HH-53 FORCE WILL REQUIRE A COMPARABLE DECREASE IN THE HH-3E AUTHORIZATIONS, AS SHOWN ON THE FIRST LINE ENTRY, TO MAINTAIN THE AUTHORIZED 56 UE END POSITION FORCE STRUCTURE.

Slide 46  
Force  
Posture  
FY 71  
00113 ✓

IN FY 71 OUR END POSITION FORCE POSTURE TO ACCOMMODATE THE INCREASED UE HC-130'S AND HH-53'S/HH-3E'S IS AS SHOWN ON THIS CHART, AND BEAR IN MIND WE ARE GOING ON THE BASIC ASSUMPTION THAT THE SEA COMMITMENT IS TERMINATED.

Slide 47  
Theater  
Asgmt  
00114

A BREAKOUT BY THEATER PROVIDES THIS BALANCED GLOBAL FORCE POSTURE:

	HC130H/P	HH3E	HH53
PLANS	25	9	8
OTHER (SOUTH & BANGKOK)	21	9	18
ASSETS (SEA)	21	0	12

SECRET

SECRET

Slide 48A AS YOU NOTICE ON THIS VIEW GRAPH, OUR RESCUE FORCES ARE  
Rerun 461

00113

PRIMARYLY CONCENTRATED IN A 25° BAND OF THE EARTH FROM  
SEASIA TO THE MIDDLE EAST BOUNDED WITHIN 45°N AND 20°N  
LATITUDES. THESE FORCES PROVIDE COVERAGE OVER THE PRIMARY  
~~REQUIREMENTS OF COMBAT SITUATIONS AND PRESENT~~ USAF TACTICAL  
AIRCRAFT ~~REQUIREMENTS~~ DEPLOYMENT ROUTES. HOWEVER, WITH  
THE ADVENT OF TRANSCONTINENTAL MILITARY AND COMMERCIAL  
JET TRAFFIC, THE PRIMARY AIR TRAFFIC IS GRADUALLY SHIFTING  
TO POLAR ROUTES WHICH PLACES THE FLIGHT PATHS OF THESE  
AIRCRAFT WELL ABOVE 50° N LATITUDE FOR TRANSOCEANIC FLIGHTS.  
CONCURRENTLY MILITARY STRATEGIC AND TACTICAL REQUIREMENTS  
ARE SHIFTING TO THE POLAR ~~REQUIREMENTS~~ REGIONS. SUCH RECENT  
REQUIREMENTS AS PROVIDING RESCUE COVERAGE FOR PERIPHERAL  
AIR RESCUE MISSIONS IN THE BALTIC SEA/LAND MASS AREAS AND AIR  
DEFENSE FIGHTERS ~~REQUIREMENTS~~ ICELAND. MUST OF NECESSITY ~~DUE TO LIMITED~~  
~~REQUIREMENTS~~ BE SATISFIED BY TDY OF AIRCRAFT AND AIRCREWS.  
~~REQUIREMENTS~~ IN THE  
CASE OF ICELAND, RESCUE COVERAGE IS BEING PROVIDED BY TDY  
CREWS FROM THE 54 RESCUE RESERVE SQUADRON CALLED TO ACTIVE  
DUTY IN FEB OF THIS YEAR. THE ARCTIC REGION IS THE ONE REGION  
THAT ~~REQUIREMENTS~~ REACTION RECOVERY CAPABILITY DUE TO  
THE ~~REQUIREMENTS~~ CONDITIONS. SURVIVAL TABLES COMPUTED  
FOR LIFE ~~REQUIREMENTS~~ OF AN INDIVIDUAL IN GOOD CONDITION DOWNED  
IN THE ~~REQUIREMENTS~~ OCEANIC AREAS

Slide 48  
Survival  
Line 1  
00246

SECRET

SECRET

IN ~~THE~~ OCEANIC AREAS ARE DEPICTED ON THIS VIEWGRAPH.  
~~AND~~ AS YOU CAN SEE, RECOVERY MUST BE EFFECTED IN THE ARCTIC  
WITHIN 30 - 90 MINUTES TO ENSURE ANY DEGREE OF MISSION SUCCESS.  
REPROGRAMMING OF ALREADY ESTABLISHED RESCUE FORCES TO  
MEET THESE ESCALATING ARCTIC REQUIREMENTS CANNOT BE  
ACCOMPLISHED WITHOUT JEOPARDIZING RESCUE RECOVERY  
CAPABILITY IN THE OTHER AREAS, ~~OF RESPONSIBILITY, WHICH WOULD~~  
~~REQUIRE REPROGRAMMING OF RESCUE FORCES.~~ THEREFORE, RESCUE,  
MAC AND AIR FORCE WILL CONTINUE TO NEGOTIATE FOR <sup>AN</sup> INCREASE IN  
RESCUE FORCES TO PROVIDE A TRUE GLOBAL CAPABILITY.

Slide 49  
H53  
Red-  
down  
00116 ✓

THE POSITIONING OF THESE HH-53/HH-3E'S COLOCATED WITH, OR  
IMMEDIATELY ADJACENT TO HC-130 LOCATIONS, PROVIDES A WELL-  
BALANCED GLOBAL POSTURE TO RESPOND TO MOST SEARCH, RESCUE  
AND RECOVERY REQUIREMENTS WITHIN <sup>existing</sup> ~~THE CURRENT~~  
AIR ROUTES OF COMMUNICATIONS. ADDITIONALLY, THE HH-53'S  
ARE STRATEGICALLY LOCATED TO SUPPORT THE U.S. MANNED  
SPACE FLIGHT <sup>HDL</sup> ~~REQUIREMENTS~~ AND APOLLO OPERATIONS.  
<sup>providing support in the</sup>  
<sup>THIS TO</sup> ~~LANDING AREAS, PLANNED LANDING AREAS AND OTHER CONTINGENCY~~  
~~RECOVERY OPERATIONS, WHICH ARE CONSIDERED TO BE~~  
~~CRITICAL~~

Slide 50 ✓  
VMS-70  
00200

IN ACTUALITY ~~THE~~ HAS BEEN SUPPORTING THE MANNED SPACE  
FLIGHT PROGRAM SINCE ITS INCEPTION. A LOOK BACK INTO THE

SECRET

COVERAGE PROVIDED THE

WORKING PAPER



SECRET

COVERAGE PROVIDED THE MERCURY AND GEMINI PROGRAMS REVEALS THAT THE LEVEL OF COVERAGE <sup>INCREASED AS</sup> ~~THE~~ THE AREA OF THE EARTH TRANSITED BY THE SPACECRAFT, <sup>EXPANDED.</sup> ~~THE~~ IN THE LATTER STAGE OF THE GEMINI PROGRAM, <sup>COVERAGE WAS REDUCED</sup> ~~COVERAGE WAS REDUCED~~ AS NASA CONFIDENCE IN THE SYSTEM GREW, <sup>AT THE SAME TIME</sup> ~~AND CONSEQUENTLY~~ THE NUMBER OF AIRCRAFT IN THE ARRS INVENTORY WAS REDUCED. <sup>EARLY PLANNING FOR COVERAGE</sup>

Slide 51 / OF THE APOLLO PROGRAM CALLED FOR A TOTAL OF 46 IN-COMMISSION Locations

00081 aircraft, 2 EACH AT 18 LOCATIONS FOR GLOBAL CONTINGENCY

COVERAGE AND 10 MORE IN THE LAUNCH ABORT AND END OF MISSION

For Apollo 7 AREAS. THIS COVERAGE HAS SINCE BEEN SUBSTANTIALLY REDUCED AS REFLECTED BY THIS NEXT SLIDE.]

IN OCT 1966 THE SECRETARY OF DEFENSE ADVISED THE ADMINISTRATOR

THE NASA THAT ANY RESOURCES PURCHASED BY THE DEPARTMENT OF

DEFENSE FOR THE SUPPORT OF NASA PROGRAMS MUST BE FUNDED OR

REIMBURSED BY NASA. THIS PROBLEM IS CURRENTLY UNDER STUDY

BY THE DEPARTMENT OF DEFENSE <sup>AND</sup> ~~FOR THE SUPPORT OF SPACE~~

~~PROGRAMS~~ WILL BE AVAILABLE AS AN

INPUT TO THE OVERALL SAR STUDY.

Slide 52 / RECOVERY SUPPORT REQUIRED FOR THE MANNED SPACE FLIGHT

Landing Areas PROGRAM IS DIVIDED INTO TWO BASIC CATEGORIES, COVERAGE FOR

00383 PLANNED AREAS AND COVERAGE FOR CONTINGENCY AREAS. <sup>A</sup> ~~PERMANENT~~

~~ARRS INVENTORY~~

THIS SUPPORT CONSIST:

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SECRET

AREA COVERAGE IS, OF COURSE, AT A HIGHER LEVEL OF SUPPORT  
THAN THE CONTINGENCY AREA. THE PLANNED AREAS INCLUDE  
THE LAUNCH SITE ABORT AREA, COVERED PRIMARILY BY  
HELICOPTERS, SUPPORTED BY LAND AND AMPHIBIOUS VEHICLES;  
THE LAUNCH ABORT AREA, SEVERAL THOUSAND MILES LONG,  
COVERED BY FIXED WING AIRCRAFT, HELICOPTERS AND SHIPS; AND  
SECONDARY PLANNED LANDING AREAS WHICH CAN BE ACTIVATED  
PRIOR TO THE NOMINAL END OF MISSION, AND FINALLY, THE  
NOMINAL END OF MISSION AREAS WHICH ARE ALSO COVERED BY  
FIXED WING AIRCRAFT, HELICOPTERS AND SHIPS. THE NORMAL  
PLANNED METHOD OF RECOVERY INCLUDES ASTRONAUT RECOVERY  
BY HELICOPTER AND SPACECRAFT RECOVERY BY SHIP. THE INCREASED  
RANGE OF THE AIR REFUELABLE HELICOPTERS NOW AVAILABLE MAKES  
THE USE OF LAND BASED HELICOPTERS FOR <sup>ASTRONAUT</sup> RECOVERY  
FEASIBLE, THIS PERMITTING USE OF A MUCH LESS SOPHISTICATED  
TYPE SHIP TO RECOVER THE SPACECRAFT THAN NOW REQUIRED. ~~RECOVER~~  
RECOVERY OF THE SPACECRAFT BY HELICOPTER IS BEING EXAMINED  
JOINTLY BY ARMY AND NASA IN CONCOMITANT TESTING, BEING  
CONDUCTED BY THE ARMY HH-53 HELICOPTERS AND NASA  
BOEING CAPSULES. THIS METHOD WILL PROBABLY  
PROVE FEASIBLE FOR MOL SPACECRAFT RECOVERY  
FOR WEIGHT REASONS. IT IS QUESTIONABLE THAT  
RECOVERING A SHIP LONG DISTANCE HAULS OF THE APOLLO

HH-53  
HH-53  
Apollo  
00072

SPACECRAFT BY HELICOPTER

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ALERT COVERAGE DESCRIBES A PROGRAM TO PROVIDE SAR COVERAGE FOR USAF AIRCRAFT IN THE LOCAL AREA AND ADJACENT ROUTES. CAPABILITY TO RESPOND TO ANY OTHER SAR REQUIREMENT IS ~~ONLY~~ COINCIDENTAL, BUT DOES EXIST IN THE LOCAL AREAS, AND <sup>BY-PRODUCT</sup> <sup>NORMAL</sup> ALONG THE AIR ROUTES, AS A NATURAL ~~BY-PRODUCT~~ OF THE AIR FORCE COVERAGE.

MOST ARRS HC-130 SQUADRONS ARE AUTHORIZED 4 AIRCRAFT. OF THESE ONE IS USUALLY UNDERGOING A PHASE ~~(OR SCHEDULE PERIODIC)~~ INSPECTION. FOUR DAYS OUT OF FIVE, ONE OF THE IN-COMMISSION AIRCRAFT IS FLOWN ON A PRECAUTIONARY ORBIT ~~(SCHEDULED)~~ AND ANOTHER IS FLOWN ~~ON~~ ON A SPECIAL MISSION. THIS LEAVES <sup>AIR</sup> ONE CRAFT AT HOME FOR THE SAR ALERT AND TO PROVIDE SPECIALIZED PROFICIENCY TRAINING. OF THE THREE IN-COMMISSION AIRCRAFT, ONE HAS FROM 75 TO 50 HOURS REMAINING BEFORE NEXT PHASE INSPECTION, ONE 50 - 25 HRS, AND ONE 25 - 0 HRS. THE USUAL SITUATION IS THAT THE LOW TIME TO GO AIRCRAFT IS THE ONE ON ALERT AT THE HOME STATION BECAUSE ~~REMAINING ENOUGH TIME LEFT~~ ~~FOR THE INSPECTION~~ IT'S FLYING TIME CAN BE CONTROLLED DOWN THERE. IT IS NOT UNUSUAL TO HAVE AN ALERT AIRCRAFT WITH NO MORE THAN ONE HR TO GO TO INSPECTION, AVAILABLE TO RESPOND TO A LOCAL EMERGENCY, BUT NOT IN CAPABLE TO LEAVE THE AREA. CONSIDERING ALL OF THESE FACTORS, THE NORMAL SAR ALERT

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THE NORMAL SAR ALERT INCLUDES AN AIRCRAFT APPROACHING INSPECTION TIME AND A CREW ON OR RECENTLY RETURNED FROM A TRAINING FLIGHT. ALTHOUGH THIS ~~SAR~~ ALERT SYSTEM IS NORMALLY ABLE TO RESPOND TO THE LOCAL AND ROUTE EMERGENCIES, IT IS USUALLY NOT CAPABLE OF TIMELY RESPONSE TO A ~~GLOBAL~~ MANNED SPACE FLIGHT ~~RECOVERY~~ REQUIREMENT AT ANY APPRECIABLE DISTANCE FROM HOME STATION, ~~WITHOUT SERIOUSLY JEOPARDIZING AIRCRAFT SAFETY. THIS, IN TURN, JEOPARDIZES AIRCRAFT SAFETY.~~ IT IS NOT CONSIDERED DESIRABLE TO PLAN OPERATIONS ON THIS BASIS. IF A GLOBAL MANNED SPACE FLIGHT RECOVERY REQUIREMENT IS IMPOSED ON ABR, AN AIRCRAFT AND A CREW OVER AND ABOVE THOSE AND OTHER MISSION REQUIREMENTS SHOULD BE IDENTIFIED AT EACH STATION AFFECTED. THIS FORCE THEN COULD REMAIN IN A "CREW RESTED" STATUS WITH A PROPERLY CONFIGURED AIRCRAFT HAVING A SUFFICIENTLY HIGH NUMBER OF HOURS LEFT TO ~~RECOVER~~ TO PROVIDE AN ACCEPTABLE MARGIN OF SAFETY. A PROPERLY CONFIGURED AIRCRAFT IS CONSIDERED TO BE ONE ~~WITH AIRCRAFT FLotation COLLARS AND OTHER~~ <sup>IT SHOULD HAVE</sup> LONG RANGE TACKLE, ~~AND~~ LONG, WITH ~~LONG~~ ELECTRONIC LOCATION AND NAVIGATION GEAR, MANDED BY AN ~~EXPERIENCED~~ CREW WITH THREE PARARESCUE MEN WHO ~~ARE CAPABLE OF~~ ACCOMPLISHED MANNED SPACE FLIGHT

RECOVERY MISSION TRAINING

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RECOVERY MISSION TRAINING WITHIN THE LAST QUARTER.

Slide 55 THE SPACE AND CONTINGENCY WAR OPERATIONS TRANSCEND  
Resource Mod GEOGRAPHIC AND THEATER BOUNDARIES NECESSITATING TIMELY  
00117 ✓ <sup>OPERATIONAL</sup> REVISION OF ARRS ORGANIZATION, ~~OPERATIONAL~~ CONCEPTS AND  
MODERNIZATION OF THE FORCE. MAC<sup>AND</sup>/ARRS IS CONSTANTLY  
EVALUATING, REVISING AND ENVISIONING NEW GOALS TO ENABLE  
ARRS TO KEEP PACE WITH THE TECHNOLOGICAL DEVELOPMENTS  
IN AEROSPACE SCIENCES. AS I MENTIONED, EQUIPMENT MODERNI-  
ZATION STARTS WITH THE LBR REPLACEMENT AIRCRAFT, AND THIS  
IS ONLY THE BEGINNING. FUTURE PROGRAMS CALL FOR THE DEVELOP-  
MENT OF <sup>AN</sup> ~~ARRS~~ ADVANCED RESCUE SYSTEM (ARS) AIRCRAFT  
BY MID 1970'S AND REPLACEMENT OF THE HC-130 WITH THE  
HC-X IN THE LATE 70'S.

Slide 56 THE ARS CONCEPT IS TO DEVELOP A V/STOL, DAY/NIGHT AND  
ARRS ✓ WEATHER-RESISTANT, LONG RANGE AIR-REFUELABLE AIRCRAFT.  
00118 FROM THE OUTSET THE AIRCRAFT WILL BE DESIGNED TO MEET  
SEVERE WEATHER CONDITIONS TO ACCOMPANY AND SURVIVE IN THE  
SAME ENVIRONMENT AS BASTARD FIGHTER AIRCRAFT. IN ADDITION  
IT WILL BE ABLE TO HOVER WITH AN ACCEPTABLE  
RATE OF TURN. THE AIRCRAFT IS REQUIRED TO EFFECT AIRCREW  
RECOVERY.

THE REQUIREMENT FOR A

Slide 57 & ✓

57 A

Source

Notes



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00120

THE REQUIREMENT FOR <sup>AN</sup> AARS VEHICLE HAS ALREADY BEEN ESTABLISHED, AND A REQUEST FOR PROPOSAL WAS ISSUED IN MAY 1967. THE RESPONSE FROM INDUSTRY RESULTED IN A VARIETY OF CONCEPTS FOR THE ~~GENE~~ VEHICLE SUCH AS THE STOWED ROTOR YOU SEE HERE.

Slide 58  
Tilt Rotor  
00124

ALSO ~~AND~~ THE TILT ROTOR SHOWN ON THIS SLIDE. ~~WHERE~~ THE EMPHASIS IS BEING PLACED ON THE AARS DEVELOPMENT, THIS VEHICLE SHOULD BE INTRODUCED INTO THE AARS INVENTORY BY 1975 TO REPLACE THE ~~HEAVY-LIFT~~ ~~IN THE~~ COMBAT AIRCREW RECOVERY ROLE, BUT NOT FOR HEAVY-LIFT RECOVERY MISSIONS SUCH AS APOLLO AND MOL. THE AARS TRAINED UP WITH THE HC-X FOR REFUELING WILL PROVIDE THE LONG-RANGE, HIGH-SPEED ACR RECOVERY CAPABILITY REQUIRED TO KEEP PACE WITH TACTICAL COMBAT OPERATIONS.

Slide 59  
Reorg  
00122

Slide 60  
00123  
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TO KEEP PACE WITH THE EXPANDING GLOBAL MISSION, AARS HAS AND IS CONTINUING TO UNDERGO ORGANIZATIONAL CHANGES. JUST LAST YEAR, THE TWO OVERSEAS CENTERS ASSUMED WING STATUS AND ~~REORGANIZED~~. ~~THE~~ PAST FEBRUARY MAC DIRECTED A STUDY ~~ON~~ ~~REORGANIZATION~~ TO ESTABLISH ONE WING AND ~~CONVERT~~ ~~THE~~ ~~OTHER~~ ~~CENTERS~~ ~~TO~~ ~~SQUADRONS~~. THE CENTERS ~~WILL~~ ~~REMAIN~~ ~~AT~~ ~~THEIR~~ ~~PRESENT~~ ~~LOCATION~~ ~~UNDER~~ ~~THE~~ ~~WING~~. THE WING WILL ALSO HAVE THE ~~THE~~ ~~3D~~ ~~ARRCP~~ ~~PLUS~~ ~~TWO~~ ~~SQUADRONS~~, ACCORDING

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... SQUADRONS, ACCORDING TO THE CURRENT THINKING AT MAC, WILL BE ESTABLISHED IN THE CONUS POST-SEA DIRECTLY UNDER HQ ARRS. THE 3ARRGP WILL BE THE PRIMARY PLANNING, LIAISON AND INTELLIGENCE AGENCY WITH US STRIKE COMMAND AND OVERSEAS USAF COMPONENT COMMANDERS, ~~FOR PREPARATION AND EXECUTION OF CONTINGENCY WAR AND EXERCISE PLANS.~~ THE TWO SQUADRONS WOULD PROVIDE THE NUCLEUS OF THE CONTINGENCY ACR FORCE. ~~FURTHER THEY WOULD TEST AND ASSESS,~~ EVALUATE AND DEVELOP CONCEPTS OF OPERATIONS TO SUPPORT TACTICAL GLOBAL CONTINGENCY WAR OPERATIONS.

*Slide 61*  
*Shield*  
*00022*

THIS GENTLEMEN HAS BEEN A QUICK REVIEW OF OUR GLOBAL MISSION RESPONSIBILITIES PRIMARILY AIMED AT GIVING YOU A BETTER INSIGHT INTO OUR OPERATIONAL REQUIREMENTS, CAPABILITIES AND LIMITATIONS AT THIS TIME I WILL BE HAPPY TO ENTERTAIN ANY QUESTIONS YOU MAY HAVE RELATIVE TO THIS BRIEFING OR ANY OTHER ASPECT OF THE ARRS MISSION AND RESPONSIBILITIES.

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AIR RESCUE SERVICE BACKGROUND, CAPABILITIES AND REQUIREMENTS  
BRIEFING

MADE BY COLONEL RUDOLPH TO HQ MATS

31 JANUARY 1964

MIRACLED

Date

PROJECT CORONA HARVEST

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AIR RESCUE SERVICE  
Background, Capabilities and Requirements

I. INTRODUCTION:

The principal purpose of this briefing is to present a condensed analysis of the Air Rescue Service capabilities to accomplish its mission, with special emphasis placed on the capability within the Zone of Interior. Some background is necessary to place the analysis in proper perspective. Naturally, capability deficiencies represent requirements. My discussion will follow this connotation.

2. BACKGROUND:

At the end of the Korean War, ARS was a relatively large organization. It was overstrength in respect to its mission requirements. This condition continued until

CHART #1 ON - 1956 POSTURE

1956, when ARS consisted of 12 groups, and 37 squadrons. 3 of these groups located in the ZI consisted of 11 squadrons of 71 fixed-wing aircraft and 12 helicopters. These 3 groups were devoted primarily to military Search and Rescue in support of USAF ZI operations.

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In 1956 and again in 1958 and 1959 USAF directed a reduction in ARS strength. As a result all Units were eliminated and overseas strength was reduced to 2 squadrons and 7 detachments. Helicopters were eliminated from ARS with final phase-out in June 1960. Reclama action resulted in the restoration of one ZI fixed-wing squadron, at Eglin AFB. Retention of this squadron was based primarily on overseas air route support, training needs, and ZI/Overseas personnel rotation balance, rather than upon ZI Search and Rescue requirements.

#### CHART #2 ON - 1960 POSTURE

Search and Rescue or SAR in the United States was to be accomplished through the National Search and Rescue plan and the local base rescue helicopter capability. The National SAR Plan was Presidentially directed, and promulgated in 1956. It provided for centralized direction and control of all available SAR capability within the ZI when an incident occurred. The capability consisted of the Civil Air Patrol, "pick-up" military aircraft from any available source, ground search parties (military and civilian), law enforcement agencies, and other groups, public and private. While this provided for lots of effort and forces, there was little professional SAR capability provided.

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USAF was made Executive Agent for the Inland Region under the National SAR Plan, the Inland Region refers only to the Continental US. CONAC was designated Inland SAR Coordinator, and exercised the function through 5 SAR Coordination Centers.

CHART #3 ON - LOCATION OF 5 CENTERS

CHART #3 - OFF

The new activated local base rescue function was parceled out to the individual commands.

In 1960, the McKee Board findings led to studies and recommendations that all rescue functions be consolidated under ARS. During 1960 and 1961, the LBR and National SAR functions were transferred to ARS. However, there are certain basic factors which should be made clear, as they bear directly and heavily upon the ARS SAR capability in the ZI. In respect to the National SAR, as in the past, there were no full time professional SAR forces available, except one ~~small~~ squadron at Eglin. In January 1962 the 41st Air Rescue Squadron was reactivated at Hamilton AFB. This squadron was not primarily reprogrammed for ZI SAR support. The 41st reactivation was oriented seaward; we got it to meet Pacific air route, Pacific Missile Range, and Alaskan and special high altitude sampling support requirements.

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The local base rescue units were tailored for aircraft crashes on and near the air base on which ~~an~~ LBR is located. Although very capable in their primary mission, these units were not equipped for extended search, and they were not (and still are not) under the direct operational control of ARS.

3. CURRENT ZI CAPABILITY:

Currently ARS has centralized control and direction of all ZI SAR missions. This is accomplished through the 3 Air Rescue Centers, which replaced the 5 CONAC Centers. To do this job ARS has available only the professional resources shown on this chart.

CHART #4 ON - SHOW NA SQDNS AND 3 ZI ARC'S

EXPLAIN CHART - COVER ZI CENTERS

NAME SQUADRONS AND CENTER LOCATIONS  
3 - HATS

- A. CENTER COMMANDERS
- B. SAR CMDRS WITHIN THEIR AREA OF RESPONSIBILITY
- C. SUPERVISE LBR PROGRAM

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The procedure is that these Air Rescue Centers will conduct SAR missions using the CAP, support aircraft from any available source, those local base rescue resources within range of a SAR incident, and any other military and civil capability available; this of course includes any ARS fixed-wing capability which can be on-scene in time.

In practice, this all transpires, but not in such smooth fashion as in theory. Here's why. FIRST, whether it is in airlift, strategic bombardment, or rescue, there is no substitute for professionalism. Most of the resources involved in any given SAR incident are not professional forces. We must through necessity rely on the USAF trained Civil Air Patrol. This relationship has proven quite successful and to some degree fills the gap between ARS requirements and resources. SECOND, except for the vicinity of Eglin and Hamilton AFB's where Air Rescue Squadrons are located, the lack of ARS professional forces and deployment distance involved is a handicap in prosecuting any ZI mission. It is noted that during the recent B-52 crash in Maryland, it was necessary to bring in ARS resources from Goose Bay and Bermuda, as well as Eglin. THIRD, the aircraft with which our squadrons are equipped are completely ~~unsuitable~~ for searching over rugged terrain, wooded areas, and where there is deep snow. Our aircraft, while too slow for quick reaction, are too fast for visual survivor search where these handicaps exist.

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This is especially acute as long as our primary search method is dependent upon human vision. Until electronic crash locator beacons and adequate individual aircrew locator beacons are in general use, visual sighting is our only means of locating downed airmen. FOURTH, although our LBR helicopters have been very successful in their primary mission, they are not designed for search duty. They are short range/endurance aircraft. They are not equipped to home on crash/individual locator devices; and, they are restricted from instrument flight. This frequently precludes their arriving on scene, and often limits search under marginal conditions.

ZI SAR shortcomings are not limited to the lack of professional forces. Nor are they limited to ARS. Outside the ARS purview, lack of aircrew rescue/survival techniques, training, and discipline compounds our difficulties. We need to go no further back than the B-52 accident cited earlier. One crew member stayed by his parachute, got out of his wet clothes and into his survival sleeping bag. Using an old type survival radio (URC-II), he talked a helicopter into visual contact and was saved. Two others left their parachutes, abandoned their survival gear, and died.

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As I stated before, there is no suitable aircraft in the ARS inventory to perform efficient search for individuals in rugged, or vegetation or snow covered terrain. This void has existed since general purpose, area coverage helicopters were phased out of the ARS inventory, by USAF Directive. The LBR helicopters can perform short range/duration, VFR, visual search only. The fixed-wing aircraft can accomplish medium range search overwater, desert, or similar terrain. For other search, comprising nearly all ZI requirements, there is a void, or at best a "gray" area. This "gray" area is covered by the capability provided by CAP and "pick-up" non-professional assistance. Although the Civil Air Patrol is, in our opinion, considered a SAR professional force, they too operate fixed-wing aircraft in most cases, and therefore fall generally into the same category as the ARS fixed-wing squadrons.

CHART #4A ON - ZI SAR OPERATIONAL STRUCTURE

EXPLAIN CHART

Despite this jerry-rig arrangement on what may appear to be a jumbled-up mess, we do get the job done, a very large percent of the time. There is however the imposed and built-in calculated risk that will catch up with us at times.

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I would now like to turn to the ARS

4. CURRENT OVERSEAS CAPABILITY:

You have seen how we looked in 1956 and in 1960, and what our current ZI posture is.

CHART #5 ON - CURRENT WORLD-WIDE POSTURE AND RESOURCES

This posture includes those North American based squadrons which I showed previously. Let me emphasize that these North American based squadrons are primarily postured, tailored, and utilized for missions other than ZI SAR. Also ARS has operational control of only the 4 NA units. All ARS squadrons located in the European Area are under the operational control of USAFE and answer to CINCEUR'S requirements. Pacific ARS Squadrons are operationally controlled by PACAF and answer to CINCPAC requirements. Our 64 world-wide local base rescue units, not shown on this chart, are operationally controlled by the Commander of the base on which they are located. Also not shown are two special detachments. (1) At Homestead AFB which controls ARS aircraft in support of Caribbean Recon missions, and (2) our detachment at Goodfellow AFB for recovery of the Balloon sampling operation. Around the world, to accomplish our missions we have 91 units on 79 bases. We maintain aircraft and territories outside the ZI. Please note our present population and UE aircraft.

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The functions our world-wide forces support are considerably more varied and extensive than is commonly known. The ARS mission, from AFR 20-54,

CHART #6 ON - BRIEF MISSION SUMMARY

covers the spectrum. / P A U S E / It includes the responsibility for recovery of aerospace hardware as well as personnel. The recovery of research and developmental hardware is also included, as well as normal command interest in and coordination on rescue/recovery R&D. Nevertheless, most people think of ARS as an organization which responds only to aircraft crashes to locate and aid survivors. The fact is that aid to survivors is not the heaviest workload of our missions, although the most compelling.

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CHART #7 ON - TABULAR LISTING OF OUR MISSIONS

The charges of AFR 20-54 lead to many missions. Here is an operational breakout of several of them. / P A U S E /  
(AF #1 SUPPORT)

ARS always has a mission going on someplace. Last year we prosecuted 12,854 missions, or over 35 missions per day! 4 1/2 % of these daily missions were the emergency type. We go anywhere, to support anyone, anytime, although we are funded - and programmed only - for USAF support.

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These USAF missions are supported in several ways: By precautionary strip alert ( and there is always one aircraft at each squadron on immediate strip alert for emergencies). By special and additive strip alerts, (at home bases and deployed locations). By precautionary airborne orbital alert, along air routes, or along space capsule ground track; by airborne intercept and escort; by air search, location, and assistance, including the dropping of survival gear and the jumping of our pararescuemen onto land or into water. And, the world-wide local base rescue function.

ARS can perform these functions, but generally in less than the optimum fashion that we desire. There is one exception, the LBR mission, this we can do properly, as these units are properly equipped. Those functions with less than optimum capability are directly attributable to equipment short-comings. By way of comparison, if SAC's capability were on a par with ours, they would just now be preparing to transition from the B-29/50's into the B-36, with the B-47 still on the come! MATS would be progressing from the C-54 to the C-118; TAC from P-51 to F-80. However regardless of our present posture, through close management, ~~much~~ TDY, the constant shifting of aircraft and good maintenance capability, we provide the best recovery force possible.

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Let me briefly touch on 3 of our more used missions, one at a time, and see how the ARS capability looks. FIRST, precautionary strip alert: We maintain this as an emergency posture at each squadron and LBR location. When an incident occurs we proceed to the location. Our top speed is 160 - 180 knots, depending whether we are in an HU-16 or an HC-54. Time is critical in rescue and the initial period after an accident is the most critical. We regret that our reaction is not faster. SECOND, airborne precautionary orbit: Here again because of our slow speeds, we must launch hours ahead of the aircraft we are supporting in order to get on station in time. If those we are supporting, postpone or abort, we have already flown the majority of the mission. Once we are on station, if a fighter goes down halfway between orbit stations, we are faced again with slow reaction time. We simply cannot fly fast enough to escort the majority of disabled aircraft.

CHART #7A ON - COMPARISON OF PERFORMANCE OVER THE YEARS

This chart demonstrates our lack of capability progress over the years. / P A U S E / If the fighters can fly at all, we can't keep up; the bombers and transports run away from us with one or two engines out.

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NEXT IS SEARCH AND LOCATION: Overwater, although slow in arriving at the scene, visual or "eyeball" search capability is at its best. However, this falls for short of that desired. Our competent pararescuemen can and do jump under almost any conditions. I am sure you remember their deployment into the open seas to assist Commander Scott Carpenter. They have also secured 5 DISCOVERER capsules in the Pacific Ocean area which would otherwise have been lost, and they are continuously in action on the AMR.

Gentlemen, I have covered with you a short background on ARS and have indicated to you the basic capabilities of the ARS today.

If we are to meet our commitments in the future however we must improve this capability. We can readily identify 4 areas that require <sup>immediate</sup> ~~our~~ attention:

CHART #8 ON - Areas Requiring Improvement

- These are:
- (1) Area SAR Coverage
  - (2) Wartime SAR Mission
  - (3) National Space Projects Support
  - (4) Location & Communication

To a very great extent all 4 of these areas are overlapping. Therefore, I will not try to cover them each as a separate entity.

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Our efforts to obtain a suitable overland search and recovery vehicle dates from the time helicopters were first phased out of ARS.

CHART #10 ON - RECAP OF EFFORTS TO OBTAIN AREA COVERAGE  
HELOS

A Major stumbling block to this objective has been a widespread and consistent misunderstanding of helicopter roles, capabilities and LBR organizational and functional requirements.

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When we request general purpose area coverage helicopters, the fact that we have 150 helicopters in our inventory almost inevitably results in the reaction, "Why can't you use them?" There are several reasons, lack of range, lift limitation, lack of speed, VFR flight only, lack of adequate communication gear, not suitable for our war time mission, to name a few. But, let me say again that life saving, fire-suppression, LBR function that the HH-43B was bought to accomplish, - it is ~~steps~~ steps.

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A long range, twin engine, heavy lift helicopter for the area job will provide ARS with the capability to accomplish overland SAR, balloon recovery, Cape Kennedy launch abort support - which by the way we are tasked by DOD to provide - and our wartime recovery mission.

Our wartime mission is to deny the enemy possession of our downed aircrews and to return these invaluable assets to US control by picking them up in the battle zone, and from within hostile territory. We ~~do not have this~~ capability. Our most capable LBR equipped HH-43B's would be marginal and then only after modification.

Another misunderstanding concerning helicopters plagues us. We need to have a mobile capability for the LBR's so they can readily deploy with the aircraft they are to support. This requirement has been confused with our requirement for mobile, area coverage, general purpose helicopters, to cover the "gray" areas I spoke of earlier, and for our wartime mission. Adding heavy helicopters such as the CH3C will give us some LBR requirement relief, since the CH3C can fill the LBR needs. The reverse is not the case, however.

Now let me briefly cover the NASA (and in the future, USAF) space support requirements.

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MERCURY support by ARS required up to 76 aircraft per shot. Many of these were borrowed, modified and unmodified, all at a high cost. None of these were as effective as basically rescue configured aircraft would have been. You know the limited ground track span of MERCURY as compared to GEMINI and APOLLO. APOLLO will traverse the earth from 40°N to 40°S, and encompass a landing footprint of 1000 NM x 5000 NM.

CHART #II ON - APOLLO FOOTPRINT

Yet we can support these projects with just 46 aircraft, as compared to 76 for MERCURY. We must, however, have HC-130H's to do the job. These aircraft will require 3 primary capabilities:

- (1) 2250 NM radius of action;
- (2) man-rated aerial retrieval system; and
- (3) spacecraft re-entry tracking capability.

7 to 9 HC-130H aircraft, with these capabilities, is expected to be able to "do the job" within a footprint such as this.

CHART #II - OFF

I am not implying that we require the HC-130H only for ~~the~~ National Space Program support. This aircraft is required to provide support for all of the ARS functions. The Space Program is very critical however and demands the capability provided by this aircraft.

Our efforts to obtain this capability have been strenuous and go back many years.

CHART # ON - RECAP OF EFFORTS TO OBTAIN 130'S, GOING BACK TO '54 OR SO

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CHART # 12 ON - HC-130H REQUIREMENTS (78)  
PROGRAMMED (60)  
FUNDED (15)

This is the status of these aircraft. We must be successful in obtaining programming and funding action for those beyond the first 15.

CHART # 12 - OFF

Before going on to the next subject, may I show you our projected aircraft program.

CHART #13 ON - ACFT PROGRAM

The blue line represents our 30 HU-16 aircraft. Although 14 years old these aircraft are programmed to remain in ARS through the next 5 years. Yellow line, HC-97's. We expect to get 28 of these aircraft starting in April 64. ~~The last aircraft~~ scheduled for ARS in Aug 64. These aircraft are programmed to be an interim bird until the programmed HC-130's take their place. ~~Their~~ effectiveness will be marginal. The 36 HC-54 aircraft, green line, will also phase out as the HC-130 come into the inventory. The brown represents our projected HH3C helicopters. These 8 are projected to go, 4 to Goodfellow AFB for balloon recovery and 4 to Patrick AFB for AMR support.

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Last, we need electronics and communication gear, both for our own aircraft and for those we support.

CHART #14 ON - RESUME' OF ATTEMPTS TO OBTAIN CRASH AND PERSONAL LOCATOR BEACONS, AND PROPER COMMUNICATIONS GEAR

We can understand, although not support, delays in obtaining proper communications gear. It is difficult to demonstrate our needs except when a tragic incident occurs. Furthermore, there are many views as to what is best; ours has frequently failed to prevail.

/ P A U S E /

CHART #14 OFF

What does puzzle us, however, is why we can't get crash and personal locators. Since WW II, we can find no evidence of opposition to such gear. On the contrary, everyone agrees that it is needed. But we've spent so long awaiting the ultimate gear that for 18 years we've had no suitable beacons. We have had almost 100% success in the recovery of aerospace hardware. Beaconry used in this hardware are in many cases very suitable to fill the requirement in question. In this equipment field we must buy the best available now; buy again when improvements come out, and continue to stay abreast. These are relatively small expenditures compared to the potential life savings that could be realized over the years.

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Some place you have to stop waiting for the ultimate and buy equipment. Designs on paper save no lives. These beacons and an effective USAF program for their use are needed now. We have cost out the recent C-124 Pacific area search at 1.35 million dollars. Suitable beacons will cut this cost considerably. *ALL BEACONS ARE AT LEAST IN PRODUCTION.*

**CHART # 15 ON - SCHEMATIC OF 3 TYPES OF CAPABILITY WE NEED**

Together with effective location beaconary and communications gear we require three basic types of SAR capability.

- a. Local Base Support. This we have in our LBR program, however the coverage is limited.
- b. Coverage of rugged, terrain, wooded areas and deep snow. Our capability is limited. Aircraft such as the HH-3C helicopters are required.
- c. Long Range Missions. Capability is limited. Will improve slightly with arrival of the HC-97. ~~The~~ HC-130 with the capabilities outlined ~~is~~ required.

**CHART #15 - OFF**

**CHART #16 ON - BUILDUP OF % FLYING TIME DEVOTED TO MISSIONS**

Our mission time percentage is building year after year. This chart indicates the growth over the last 6 years.



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A recent official request to our using agencies for their predicted support requirements shows that they will continue to expand. CLEARWATER actions are expected to further raise these requirements.

/PAUSE/

CHART #16 - OFF

In summary, if ARS capabilities are to reach the level our users expect and need, we have ~~tot~~ to spend, in practically one package, the money that 14 years of neglect dictates. We must have equipment compatible with the systems we support, and the tasks we must accomplish.

Gentlemen - since the days of Kitty Hawk, man has had trouble in the air. I foresee nothing that will change this trend. If we are to aid these flyers, and I am sure that the US public will demand just that, a complete and effective search and recovery capability must be "in being".

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## AIR RESCUE SERVICE BRIEFING

## SOUTHEAST ASIA SAR REQUIREMENTS (1965)

17 Feb 1965

Presented to Comdr MATS  
by Hq ARS

PROJECT CORONA HARVEST

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GENERAL ESTES

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CHART #1 - ON (SEA AREA)

RETURN TO:

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Aerospace Studies Inst  
ATTN: Archives Branch  
Maxwell AFB, Alabama

1965  
K318-403-23

IN THIS PRESENTATION WE WILL EVALUATE BOTH THE PACAF AND THE  
ARS PROPOSALS TO MEET THE CURRENT AND PROJECTED SOUTHEAST ASIA  
SEARCH, RESCUE AND RECOVERY REQUIREMENTS.

IN OCT 1964, HQ ARS REQUESTED THE PACIFIC AIR RESCUE CENTER (IN  
ARS MSG ARXDC 50004, 5 OCT 64) TO DETERMINE AND PROJECT AS FAR AS  
POSSIBLE INTO THE FUTURE THE SAR REQUIREMENTS IN SOUTHEAST ASIA.  
IN REPLY, CINCPACAF AND PARC CONDUCTED A JOINT STUDY OF THESE  
REQUIREMENTS AND SUBMITTED THEIR FINDINGS SIMULTANEOUSLY TO HQ  
MATS AND HQ ARS (15 DEC 64). IT IS THIS REPLY, THAT WE HAVE ANALYZED  
ALONG WITH THE GUIDELINES PROVIDED BY HQ MATS (MAXDC 50012, JAN 65).

CHART #1A - ON

THESE GUIDELINES ARE:

1. IDENTIFY ARS RESOURCES RECOMMENDED FOR DIVERSION, TO  
SATISFY THE SEA REQUIREMENT.

2. DELINEATE IMPACT ON SUPPORT OF USAF REQUIREMENTS AS

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3. OUTLINE EXACTLY THE ARS COMMAND ARRANGEMENTS IN SEA.
4. CONSIDER THE ESTABLISHMENT OF A SQUADRON IN THE AREA.
5. IDENTIFY THE SPECIFIC AND TOTAL MANPOWER COSTS AS WELL AS A SOURCE OF THE SPACES.
6. TDY REQUIREMENT SHOULD BE ELIMINATED OR HELD TO A MINIMUM.
7. ESTIMATE OF AIRCRAFT PROCUREMENT MODIFICATION COSTS.

WE HAVE USED THESE 7 MATS GUIDES TO MEASURE BOTH THE PACAF PROPOSAL AND OUR (ARS) PROPOSAL.

### CHART #2 - ON (SEA SAR MISSIONS)

HERE ARE THE MISSIONS FOR WHICH WE MUST PROVIDE COMBAT AIRCREW SAR COVERAGE.

### CHART #3 - ON (SEA SAR MISSIONS)

### CHART #4 - ON (SEA SAR MISSIONS)

### CHART #5 - ON (S. E. ASIA MAP - BLACK & WHITE OUTLINE)

THIS CHART DEPICTS OUR POSTURE TODAY IN SEA.

PCS	3 HH-43F'S	DA NANG, RVN
PCS	3 HH-43F'S	KORAT, THAILAND
PCS (Det 3 - Control Element)		TAN SON NHUT, SAIGON

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TDY	3 HH-43B'S	NAKHON PHANOM, THAILAND
TDY (ZI RESOURCE)	2 HH-43B'S	KORAT, THAILAND
TDY (ZI RESOURCE)	2 HH-43B'S	TAHKLI, THAILAND

CHART #5A - OVERLAY

SINCE JUNE 1964 WE HAVE ALSO DEPLOYED AS MANY AS 5 HU-16'S IN SEA FROM RESOURCES OF THE 31 ARSQ (CLARK) AND 33 ARSQ (OKINAWA). THESE AIRCRAFT ARE OPERATING TDY FROM DA NANG, RVN AND KORAT, THAILAND.

CHART #5B - ON

A TOTAL OF 86 MANPOWER SPACES ARE NOW AUTHORIZED IN RVN. 37 SPACES EACH FOR THE TWO HH-43F HELICOPTER DETACHMENTS AND 12 SPACES FOR DET 3, THE JSARC. DET 3 CONTROLS ALL OF THE ACTIONS OF THE 6 HH-43B'S, THE 7 UNMODIFIED HH-43B'S AND THE HU-16 TDY AIRCRAFT. THESE 18 AIRCRAFT AND THEIR ATTENDANT RESOURCES NOW REPRESENT THE TOTAL AIR RESCUE SERVICE SEA SAR FORCE.

CHART #6 - ON (PACAF PROPOSAL)

THIS SHOWS THE FORCE POSTURE RECOMMENDED BY PACAF.

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(Starting in the North)	HH-3C	HH-43B	TOTAL
1. Da Nang, RVN	3	3	6
2. Pleiku, RVN	3		3
3. Bien Hoa, RVN	3	3	6
4. Can Tho, RVN	3		3
5. Nakhon Phanom	3		3
6. Korat, Thailand		2	2
7. Takhli, Thailand		2	2

PACAF'S TOTAL REQUIREMENT IS 25 HELICOPTERS

15 HH-3C'S

6 HH-43F'S

4 HH-43B'S

AND A CONTINUED EMPLOYMENT OF 5 TDY HU-16'S.

CHART #6A - OVERLAY - ON

IN THE PACAF SEA FORCE PROPOSAL, 30 AIRFRAMES WOULD BE REQUIRED,  
WITH A MANPOWER ADDITIVE COST OF 370 SPACES.

UNTIL SUFFICIENT MODIFIED CH-3C AIRCRAFT CAN BE MADE AVAILABLE  
PACAF REQUESTS THAT 12 ADDITIONAL HH-43F'S BE PLACED IN SEA.

1. 3 AT DA NANG
2. 3 AT PLEIKU
3. 3 AT BIEN HOA
4. 3 AT CAN THO

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THIS REQUEST DOESN'T CHANGE THE TOTAL REQUIREMENT OF 30  
AIRFRAMES - 25 HELICOPTERS AND 5 FIXED - WING AIRCRAFT.

IN OUR ANALYSIS OF THIS PROBLEM, WE CONCLUDED THAT NO COMMAND  
STRUCTURE WOULD BE SATISFACTORY UNLESS A PCS SQUADRON WAS FORMED  
IN THE AREA FOR POSITIVE COMMAND, CONTROL AND EFFECTIVE LOGISTIC  
SUPPORT, THIS TO INCLUDE AIRCRAFT AND PERSONNEL. THE PACAF  
PROPOSAL DID NOT SUGGEST A SEA SQUADRON NOR DID THEY RECOMMEND  
AN ALL PCS FORCE. HOWEVER, HQ MATS GUIDELINES DID RECOMMEND THIS  
BE CONSIDERED. WE BELIEVE IT A VALID REQUIREMENT, THEREFORE, THE  
MANPOWER FIGURES SHOWN REFLECT AN ALL PCS FORCE INCLUDING A  
SQUADRON.

(Also a Hq USAF msg recommended a PCS force)

CHART #7 - ON

FOLLOWING AN ALERTING MESSAGE FROM THE AIR FORCE CHIEF OF  
STAFF TO HQ MATS AND HQ ARS, A MEETING WAS HELD AT ORLANDO AFB  
BETWEEN HQ USAF PERSONNEL WORKING ON THIS PROGRAM AND  
GENERAL WILLIAMS AND HIS STAFF. IN THIS MEETING WE CONSIDERED:

1. THE POSSIBILITY OF PLACING 6 COMBAT MODIFIED CH-3C'S IN  
SEA INSTEAD OF 12 MODIFIED HH-43B'S, AND
2. TO WHAT EXTENT COULD THE CH-3C AIRCRAFT REPLACE THE  
HU-16'S?

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AT THIS MEETING IT WAS GENERALLY CONCLUDED THAT:

1. THE ALL-WEATHER CH-3C COULD REPLACE AND IMPROVE ON THE HU-16 AIRCRAFT'S CAPABILITY IN THOSE ITEMS THAT ARE PECULIAR TO THE HU-16, SUCH AS WATER RECOVERY.
2. THAT THE CH-3C CAN OBTAIN A 3-MINUTE ALERT POSITION.
3. THAT THE FIRE SUPPRESSION CAPABILITY OF THE CH-3C IS SIMILAR BUT GREATER THAN THAT OF THE HH-43B.
4. THAT THE HH-3C CAN PERFORM NIGHT, OVER-WATER RESCUE/RECOVERIES TRANSITING IFR WEATHER AND
5. THAT EVERY EFFORT SHOULD BE MADE TO PUT 6 CH-3C AIRCRAFT INTO SEA INSTEAD OF 12 ADDITIONAL HH-43B'S, AND THAT ADDITIONAL CH-3C'S BE SENT TO SEA AND REPLACE THE REMAINING HH-43B'S AND HU-16'S.

THIS IS OUR RECOMMENDED FORCE POSTURE. WE BELIEVE IT CAN BECOME A REALITY WITH A TIME-PHASED SERIES OF PROGRAMMED ACTIONS GEARED TO PLACE OPERATIONALLY READY SAR FORCES IN THE VIETNAM/ THAILAND COMPLEX BEGINNING IN FY 2/66 AND ACHIEVING THE END POSTURE OF A SOUTHEAST ASIA SQUADRON WITH 4 DETS OF 4 UE HH-3C'S EACH IN FY 4/66.

WE SUGGEST THAT 6 CH-3C'S FROM THE CURTAILED "SOUTH SHORE" TESTS COULD BE COMBAT MODIFIED BY JULY OF THIS YEAR. ATTENDANT RESOURCES, INCLUDING TRAINED PERSONNEL, COULD ALSO BE MADE

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AVAILABLE FROM THE SAME SOURCE.

CONCURRENT WITH THIS PROPOSED PROGRAM, DET 3, PARC THE SEA CONTROL ELEMENT WOULD BE DISCONTINUED, AND THE COORDINATION CENTER FUNCTION ABSORBED AND CONTINUED IN THE SOUTHEAST ASIA SQUADRON. WE RECOMMEND THAT THE FIRST 3 MODIFIED HH-3C's BE PLACED AT BIEN HOA AND THE 2D THREE AT NAKHON PHANOM, AND THAT 10 ADDITIONAL MODIFIED HH-3C AIRCRAFT BE SENT TO SEA AS SOON AS POSSIBLE UNTIL A TOTAL OF 16 HH-3C HELICOPTERS ARE IN THE POSTURE NOTED ON THIS CHART. IN OUR OPINION THESE 16 AIRCRAFT HAVE THE CAPABILITY TO REPLACE THE COVERAGE NOW BEING PROVIDED BY THE HH-43'S AND THE HU-16'S. UNTIL PACAF HAS TIME TO COMPLETELY ACQUAINT THEMSELVES WITH THE CAPABILITIES OF THE HH-3C THEY MAY REQUIRE ONE OR TWO HU-16'S BE RETAINED IN THE SEA COMPLEX. WE BELIEVE, HOWEVER, THAT FOLLOWING A BREAKING-IN PERIOD, THE HU-16'S CAN RETIRE TO CLARK AND NAHA AIR BASES. IF ONE OR TWO HU-16'S ARE REQUIRED ON A CONTINUING BASIS, THE AIRCRAFT AND CREWS SHOULD BE TDY'D FROM THE HU-16 FLEET IN THE PACIFIC.

WE ESTIMATE THE ATTRITION RATE FOR THESE TWIN-TURBINE AIRCRAFT TO BE 25% OF THE RECOMMENDED FORCE COMPUTED OVER A 12-MONTH PERIOD IN THE COMBAT ENVIRONMENT. THUS, 4 COMBAT CONFIGURED HH-3C AIRCRAFT PER YEAR MUST BE PROGRAMMED AS REPLACEMENT FOR THOSE ATTRITED. THIS ATTRITION FACTOR IS ALMOST 50% LESS THAN THAT

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COMPUTED FOR THE COMBAT MODIFIED SINGLE-ENGINE HH-43F'S.

CHART #8A - OVERLAY

THIS UE FORCE OF 16 HH-3C AIRCRAFT WILL REQUIRE 192 ADDITIVE  
MANPOWER SPACES (OR APPROXIMATELY 20 LBR IF WE PROVIDE THE SPACES)  
THIS TO INCLUDE THE SEA SQUADRON REQUIREMENT.

CHART #9 - ON (RADIUS OF HH-43)  
(VFR RADIUS - TALK)

CHART #9 - OVERLAY - ON (HH-43B)

THIS INDICATES THE IFR RADIUS OF ACTION OF THE HH-3C WITH 2  
AUXILIARY TANKS. FLYING TIME TO 400 MILES OUT IS 3 + 40 HRS. WITHIN  
ANY PART OF RVN THIS AIRCRAFT FROM ITS HOME BASE SHOULD BE ABLE  
TO BE OVER A LAND RECOVERY AREA WITHIN AN HOUR OR LESS. FORWARD  
STAGING OR PREPLANNED STRIP ALERT WILL CUT THIS TIME. FOR EXAMPLE:  
DEPLOYING FROM OUR PROPOSED FIXED BASE AT TAKHLI, ONE HH-3C CAN  
GIVE ON THE SPOT, 3 MINUTES OR LESS AIRBORNE FIRE SUPPRESSION RESCUE  
SERVICE AT KORAT. ONE ADVANTAGE OF THE HH-3C AND ITS DEPLOYMENT  
TO ADVANCED OPERATING LOCATIONS SUCH AS CAN THO OR PLEIKU, IS  
THAT ON THE SPOT RESCUE COVERAGE IS AVAILABLE WITHOUT UNDULY  
JEOPARDIZING THE MAIN RESCUE FORCE BECAUSE OF THE POOR AIRFIELD  
SECURITY AT MOST ADVANCED BASES SUCH AS PLEIKU.

CHART #10 - ON (COMMAND ARRANGEMENT)

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THIS WIRING DIAGRAM SHOWS OUR RECOMMENDED COMMAND ARRANGEMENT. ONE SEA SQUADRON WOULD PROVIDE THE USAF CONTROL ELEMENT FOR THE JSARC. THE SQUADRON COMMANDER WOULD REPORT TO THE PACIFIC AIR RESCUE CENTER (OR PACIFIC WING COMMANDER).

CHART #11 - ON (MOD COSTS)

THE COST TO MODIFY THE HH-43B TO A COMBAT CONFIGURED "F" MODEL IS \$225,000 PER AIRFRAME. TO MODIFY THE CH-3C'S TO THE HH-3C COMBAT CONFIGURATION IS \$150,000 PER AIRFRAME FOR THE FIRST 6 AND \$35,000 THEREAFTER.

CHART #12 - ON

FROM A MANPOWER VIEWPOINT THE ARS PROPOSAL WILL PROVIDE THE NECESSARY SAR FORCE AT A CHEAPER COST. THESE MANPOWER FIGURES ON THIS CHART ARE ADDITIVE TO THOSE 86 NOW AUTHORIZED.

AT THIS TIME, I WOULD LIKE TO SHOW YOU A 4-MINUTE FILM OF THE CH-3C FIRE SUPPRESSION TEST AND THEN I WILL CONCLUDE WITH SOME COSTS FACTORS.

BACKGROUND MATERIAL FOR NARRATION ON FOOTAGE OF THE HH-3C  
FIRE SUPPRESSION TEST

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THIS IS THE NEW CH-3C SIKORSKY TWIN-TURBINE HELICOPTER NOW BEING USED IN LIMITED NUMBERS WITH THE AIR RESCUE SERVICE AT PATRICK AFB, FLA.

THE AIR RESCUE SERVICE WAS MADE RESPONSIBLE FOR CATEGORY III TESTING OF THIS NEW HELICOPTER, AND ONE PORTION OF THE TEST PROGRAM WAS TO INVESTIGATE THE FIRE SUPPRESSION POTENTIAL.

HERE TWO FIREFIGHTERS DEPLOY FROM THE '3C AND, AIDED BY THE HELICOPTER'S HIGH VELOCITY ROTOR DOWNWASH, USE THE FIRE SUPPRESSION KIT TO LAY A PATH OF FOAM TO THEIR OBJECTIVE - A MOCK-UP COCKPIT OF A CRASHED AIRCRAFT. THE EFFECT OF THE ROTOR-WASH IS CLEARLY VISIBLE IN THESE SCENES.

THESE MOTION PICTURES ARE FROM THE FIRST TESTS OF THE CH-3C IN THIS ROLE. THE TESTS WERE CONDUCTED UNDER A PRACTICALLY "NO WIND" CONDITION WHICH CONSIDERABLY LESSENS THE EFFECT OF THE ROTOR DOWNWASH. EVEN IN THIS SOMEWHAT ADVERSE CONDITION, THE FIREFIGHTERS INVOLVED IN THE TEST AGREED THAT THE NON-DIRECTIONAL NATURE OF THE CH-3C DOWNWASH WAS A GREAT BOON IN THAT IT AFFORDED THEM CONSTANT PROTECTION EVEN WHEN THE HELICOPTER WAS MANEUVERING BEHIND THEM.

THIS SCENE SHOWS THE HH-43B HELICOPTER FIGHTING A COMPARABLE FIRE UNDER IDENTICAL CIRCUMSTANCES.

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CHART #13 - ON

THE MOST COMPELLING RATIONALE IN OUR RECOMMENDED SEA SAR FORCE POSTURE IS THAT IT WOULD ACHIEVE THE FOLLOWING RESULTS:

- a. REDUCE THE ADDITIVE MANPOWER EXPENDITURE IN THE PACAF PROPOSAL BY 178 SPACES.
- b. REDUCE THE COST IN AIRFRAMES FROM 30 TO 16.
- c. REDUCE SUBSTANTIALLY THE AIRFRAME MODIFICATION COSTS. 1.2 MILLION VS 2.7 MILLION.
- d. ELIMINATE THE TDY LBR FORCES AND ELIMINATE OR GREATLY REDUCE THE HU-16 ROTATIONAL REQUIREMENT.
- e. IMPROVE LOGISTICS BY REDUCING THE NUMBER OF AIRCRAFT TYPES AND NUMBERS, AND FIXED-WING INSTALLATIONS. 5 OPERATING BASES IN ARS PROPOSAL VS 8 IN PACAF'S. ONE AIRCRAFT TYPE IN THE ARS PROPOSAL VS 4 IN PACAF'S.
- f. RESTORE BACK TO NORMAL THE LBR FORCES.
- g. IMPROVE OUR HIGH ALTITUDE OPERATING CAPABILITY AT CRITICAL LOCATIONS SUCH AS NELLIS, DAVIS-MONTHAN, etc, PROVIDING (since we can utilize the F's at these locations) A GREATER SAFETY FACTOR.
- h. A SUPERIOR OPERATIONAL CAPABILITY AT OVERALL REDUCED COSTS.

WE RECOMMEND THAT HQ USAF BE REQUESTED TO PROCEED FORWARD WITH IMPLEMENTING THE 16 HH-3C HELICOPTER CONCEPT FOR SEA.

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THIS TO INCLUDE 192 ADDED MANPOWER SPACES FOR AN "ALL PCS  
OPERATION."

Cost HH-43B	\$467,000
<u>Modification</u>	<u>225,000</u>
	\$692,000

Cost CH-3C	\$860,000
<u>Modification</u>	<u>150,000</u>
1st 6	\$1,010,000
Next each	\$860,000
	<u>35,000</u>
	\$895,000

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Director Research Studies Inst AFM Archives Branch Knoxville AFB, Alabama	RETURN TO: ✓	318.203-24 17 Sep 1964
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AIR RESCUE SERVICE BRIEFING

17 September 1964

Presented to Hq MATS World-Wide Traffic Conference  
by Col Rudolph



PROJECT CORONA HARVEST	
DO NOT DESTROY	
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General Coiner  
General Cunningham  
Gentlemen

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Director  
Asst. Dir. for  
Adm. Affairs  
Morrell AFB, Alabama

RETURN TO

K318.203-24  
17 Sep 1964

IT IS A PLEASURE TO HAVE THIS  
OPPORTUNITY TO TALK TO YOU TONIGHT ABOUT AN  
ORGANIZATION THAT I HAVE GROWN VERY FOND OF  
SINCE MY ASSIGNMENT TWO YEARS AGO. WHEN I  
WAS ASKED TO TALK TO YOU, IT WAS REQUESTED THAT  
I SELECT MY OWN SUBJECT. AS GUIDANCE, IT WAS  
INDICATED THAT THE TALK SHOULD BE EDUCATIONAL  
BUT NOT TOO SERIOUS, THEREFORE, I HAVE TRIED  
TO COMPLY WITH THIS REQUEST IN MY PREPARATION  
FOR THIS PRESENTATION TONIGHT.

IN DISCUSSING THE AIR RESCUE  
SERVICE, SOME OF MY STATEMENTS ARE MY OWN  
VIEWS, AND, THEREFORE, SHOULD NOT BE CONSTRUED  
TO REFLECT THE OFFICIAL VIEWS OF THE AIR RESCUE  
SERVICE.

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TO PROVIDE A BASIC UNDERSTANDING FOR THOSE OF YOU WHO ARE NOT FAMILIAR WITH THE AIR RESCUE SERVICE, I WOULD LIKE TO COVER SUCH THINGS AS WHERE OUR UNITS ARE LOCATED, THE TYPE OF AIRCRAFT WE HAVE ASSIGNED, A FEW OF OUR MORE PERTINENT MISSIONS, AND OTHER DATA THAT WILL GIVE YOU A BROAD BASE OF UNDERSTANDING. FROM THERE, WE WILL LOOK AT "HOW WE ARE DOING", AND WHERE, I THINK, "WE ARE GOING."

THROUGHOUT THE AIR FORCE, THE AIR RESCUE SERVICE HAS THE REPUTATION OF SUPPLYING SEARCH AND RESCUE SERVICES TO PERSONS ONLY. I ASSURE YOU THAT THE MISSION OF ARS IS MUCH GREATER THAN THIS. THE AIR FORCE HAS CHARGED THIS COMMAND WITH THE RECOVERY OF AEROSPACE HARDWARE AS WELL AS THE HUMAN BEINGS, AND THIS IS THE GENERAL MISSION STATEMENT IN ITS BROADEST ASPECTS.

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TO BE MORE SPECIFIC, WE ARE CHARGED WITH OPERATING THE NATIONAL SEARCH AND RESCUE PLAN, WHICH DEALS WITH FINDING, RESCUING AND AIDING CIVILIAN AND MILITARY PERSONNEL WITHIN THE CONTINENTAL UNITED STATES AND ANY OTHER PLACE IN THE WORLD AS DIRECTED. THIS COULD BE A LOST HUNTER IN UTAH OR A DOWNED CIVILIAN AIRCRAFT IN THE SWAMPS OF FLORIDA.

THE COAST GUARD IS CHARGED WITH THE SAME MISSION AS IT PERTAINS TO WATER AREAS OF THE UNITED STATES. VERY FREQUENTLY YOU WILL FIND ARS AND THE COAST GUARD SUPPORTING EACH OTHER IN MANY OF THESE ACTIVITIES.

OUR RECOVERY FORCES ARE CONTINUALLY AT WORK ON THE AIR FORCE EASTERN TEST RANGE OPERATING OUT OF VARIOUS BASES IN THE CARIBBEAN AREA AND WE FIND OURSELVES FREQUENTLY INVOLVED IN ACTIVITIES ON THE WESTERN TEST RANGE IN THE HAWAIIAN AREA.

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WE CONTINUALLY RESPOND TO THE RECOVERY OF  
VARIOUS AND SUNDRY ITEMS OF AEROSPACE  
HARDWARE THROUGHOUT THE WORLD. THEY ARE  
TOO NUMEROUS TO MENTION IN THE SHORT TIME  
I HAVE TONIGHT AND YOU UNDOUBTEDLY REALIZE  
MANY OF THESE PROJECTS ARE HIGHLY CLASSIFIED.

WE ARE ALSO CHARGED WITH PLANNING  
AND SUPERVISING THE EXECUTION OF A JOINT  
HURRICANE EVACUATION PLAN. THIS PLAN INVOLVES  
AIRCRAFT FROM ALL OF THE MILITARY SERVICES.  
THOUSANDS OF AIRCRAFT HAVE BEEN EVACUATED  
UNDER THIS PLAN. IN THE LAST FEW WEEKS OVER  
<sup>2300</sup>  
~~2000~~ MILITARY AIRCRAFT HAVE BEEN EVACUATED  
BECAUSE OF HURRICANES "CLEO" AND "DORA".

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THE AIR RESCUE SERVICE IS ONE OF THE SMALLEST COMMANDS IN THE UNITED STATES AIR FORCE. AT THE PRESENT TIME THERE ARE 87 UNITS LOCATED THROUGHOUT THE WORLD FROM TURKEY ON THE EAST TO THAILAND ON THE WEST. WE HAVE UNITS LOCATED AS FAR NORTH AS THULE AB, GREENLAND AND ELMENDORF, ALASKA, AND AS FAR SOUTH AS THE PANAMA CANAL ZONE. DETAILED EXAMINATION WILL INDICATE TO YOU THAT THE 87 SEPARATE SMALL AND DISTINCT ORGANIZATIONS ARE LOCATED IN 21 DIFFERENT COUNTRIES AND TERRITORIES OUTSIDE THE CONTINENTAL UNITED STATES. WE HAVE 7 PRIMARY AIR RESCUE CENTERS OF WHICH 4 ARE OUTSIDE THE CONTINENTAL UNITED STATES, THESE 4 SERVE THE 4 PRIME MILITARY OVERSEA COMMANDERS. THAT IS, THE ATLANTIC AIR RESCUE CENTER AT RAMSTEIN, GERMANY (SERVES EUROPE, AFRICA AND THE MIDDLE EAST.

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THE ALASKAN AIR RESCUE CENTER AT ELMENDORF, ALASKA (takes care of ALASKA); THE LATIN AMERICAN AIR RESCUE CENTER AT PANAMA (serves the AIR FORCES, SOUTH AREA), AND THE PACIFIC AIR RESCUE CENTER AT HICKAM AFB, HAWAII (takes Care OF THE PACAF AREA).

WITHIN THE CONTINENTAL US WE HAVE 3 AIR RESCUE CENTERS; AN EASTERN CENTER AT ROBINS AFB, GEORGIA; THE CENTRAL UNITED STATES IS COVERED BY A CENTER AT RICHARDS-GEBAUR AFB, KANSAS CITY, MISSOURI; AND THE WESTERN CENTER AT HAMILTON AFB, CALIFORNIA.

AT 12 OF THESE WORLD-WIDE LOCATIONS, WE HAVE SMALL FIXED WING SQUADRONS. THESE SQUADRONS ARE STRATEGICALLY LOCATED ALONG EAST/WEST AIR ROUTES THAT COVER THE WORLD.

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WE HAVE 64 LBR UNITS LOCATED IN THE UNITED STATES AND OVERSEAS. THESE UNITS PROVIDE LOCAL BASE RESCUE COVERAGE FOR AND AROUND THE AIRBASE ON WHICH THEY ARE LOCATED.

AT <sup>94</sup> OF THESE WORLD-WIDE LOCATIONS, WE HAVE CONTROLLERS AND/OR AIRCREW PERSONNEL STANDING BY ON ALERT 24-HRS A DAY, 7-DAYS A WEEK.

THE COMMAND GREW <sup>18%</sup> ~~24%~~ OVER THE LAST 18 MONTHS AND IS SCHEDULED TO GROW ANOTHER <sup>36%</sup> ~~20%~~ OVER THE NEXT 2 YEARS.

CURRENTLY WE ARE EQUIPPED WITH 36 HC-54 AIRCRAFT. THIS IS A C-54 MODIFIED FOR RESCUE PURPOSES.

WE HAVE 30 HU-16 AIRCRAFT. THIS IS A FLYING BOAT AFFAIR THAT CAN LAND AND TAKE-OFF ON WATER OR LAND.

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WE ARE AUTHORIZED 150 SMALL  
HH-43B HELICOPTERS PRIMARILY FOR USE IN OUR  
LOCAL BASE RESCUE UNITS.

AT THE PRESENT TIME WE ARE RECEIVING  
28 MODIFIED KC-97 AIRCRAFT THAT HAVE BEEN  
MODIFIED TO A RESCUE VERSION. THESE AIRCRAFT  
ARE BEING CALLED HC-97'S. THESE 28 AIRCRAFT  
ARE ADDITIVE TO OUR INVENTORY AND ARE BEING  
PROVIDED ON AN INTERIM BASIS UNTIL SUCH TIME  
AS A MORE MODERN AIRCRAFT CAN BE PRODUCED  
AND DELIVERED.

Total POPULATION OF THIS COMMAND  
IS APPROXIMATELY 3100 AT THE PRESENT TIME.

LAST YEAR THE AIR RESCUE SERVICE  
ACCOMPLISHED OVER 12,000 MISSIONS. 84%  
OF THESE WERE IN SUPPORT OF USAF AIRCRAFT.  
OF THE 12,000 PLUS MISSIONS, 423 WERE IN THE  
EMERGENCY CATEGORY.

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LAST YEAR THE AIR RESCUE SERVICE IS CREDITED WITH SAVING 1,189 LIVES AND ASSISTING 3,248 OTHER PERSONS. ON ANY GIVEN DAY, AIR RESCUE PERSONNEL MAY BE PARTICIPATING IN A SEARCH FOR A DOWNED FIGHTER PILOT, AN EMERGENCY MEDICAL EVACUATION FROM A MERCHANT VESSEL IN THE SOUTH SEAS, A SEARCH FOR A MISSING FISHERMAN IN MICHIGAN OR THE ESCORT OF A CRIPPLED AIRLINER OVER THE ATLANTIC OCEAN. (CARDS)

MAY I NOW COVER A FEW OF OUR REQUIREMENTS ~~of~~ <sup>for</sup> THE FUTURE. ALTHOUGH THE AIR RESCUE SERVICE HAS BEEN INVOLVED IN THE MAN-IN-SPACE NATIONAL PROGRAM SINCE ITS START, THE NATIONAL AERONAUTICS SPACE ADMINISTRATION, STARTING THIS WINTER, WILL HAVE AN ALMOST CONTINUOUS STAND-BY REQUIREMENT FOR THE POSSIBLE RECOVERY OF THEIR MANNED SPACE VEHICLES.

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IN THIS PROGRAM WE ARE CHARGED WITH THE SUPPORT OF MISSILE ABORT AT CAPE KENNEDY AS WELL AS THE OPERATION OF AN AIR RECOVERY FORCE AROUND THE WORLD. WHEN A SPACECRAFT RETURNS FROM A MISSION, IT LANDS IN WHAT IS CALLED A FOOT-PRINT. WHEN THE SPACECRAFT ENTERS THE SENSIBLE ATMOSPHERE, COMPUTERS WILL PREDICT AN AREA IN WHICH THE SPACECRAFT WILL LAND. THE COMPUTER WILL, OF COURSE, PREDICT THE EXACT SPOT, HOWEVER, DIFFERENT VARIABLES AND ACTIONS CAN TAKE PLACE DURING THIS LANDING. THESE VARIABLES AND PROCEDURES MAKE IT POSSIBLE FOR THE SPACECRAFT TO OVERSHOOT AND UNDERSHOOT THIS EXACT LOCATION, HOWEVER THE SQUARE MILE AREA WITHIN THIS REALM CAN BE FORECAST. THE MERCURY SPACECRAFT WAS RELATIVELY SIMPLE INASMUCH AS THE FOOTPRINT WAS ONLY A 50 x 50 MILE AREA.

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THE GEMINI SPACECRAFT RECOVERY PROBLEM IS A LITTLE MORE SERIOUS SINCE ITS LANDING FOOTPRINT IS 100 X 500 MILES. APOLLO SPACECRAFT RECOVERY PRESENTS THE MOST DIFFICULT PROBLEM WITH A FOOTPRINT 1000 MILES WIDE AND 5000 MILES LONG. IT BECOMES NECESSARY, THEREFORE, FOR THE AIR RESCUE SERVICE TO HAVE AIRCRAFT THAT HAVE THE CAPABILITY TO FIND AND RECOVER THE SPACE VEHICLE UPON ITS RETURN TO THE EARTH'S SURFACE IN ANY SIZE FOOTPRINT AT ANY PLACE AROUND THE WORLD FROM 40°N TO 40°S LATITUDE. AS AN EXAMPLE, THIS FOOTPRINT COULD EXTEND FROM EAST OF BERMUDA TO WEST PAST HAWAII, OR FROM NEW ZEALAND EAST TO THE COAST OF SOUTH AMERICA, OR FROM THE MIDDLE OF BRAZIL EAST TO ADDIS ABABA, ETHIOPIA.

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IN ADDITION TO THE NASA RECOVERY REQUIREMENTS, THE AIR FORCE MANNED ORBITAL LABORATORY WILL START OPERATIONS IN SPACE IN THE LATE 60'S. THE RECOVERY OF THIS VEHICLE WILL ALSO BECOME THE JOB OF THE AIR RESCUE SERVICE. THE RE-ENTRY VEHICLE FOR THIS PROGRAM IS EXPECTED TO BE A MODIFIED GEMINI CAPSULE, THEREFORE, THE RECOVERY PROBLEM WILL FALL IN THE 500 MILE LANDING FOOTPRINT CATEGORY.

IN THE FUTURE WE WILL CONTINUE TO HAVE THE REQUIREMENT TO RECOVER CREW *members* ~~PERSONNEL~~ FROM FIGHTERS AND BOMBERS THAT MAY BE FORCED DOWN IN ANY PART OF THE WORLD. ALTHOUGH THE AIR RESCUE SERVICE IS NOT SPECIFICALLY CHARGED OR BUDGETED FOR THE RECOVERY OF <sup>*people*</sup> ~~PERSONNEL~~ ABOARD A DOWNED CIVILIAN AIRCRAFT, WE REALIZE <sup>*that*</sup> WHEN THIS DOES HAPPEN, WE ARE THE FIRST ORGANIZATION TO BE CALLED ON TO PROVIDE AID.

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AS POLAR AIR ROUTES ARE USED MORE BY CIVILIAN AIRCRAFT, WE REALIZE THAT WE MUST CONSIDER THE POSSIBILITY OF SOME DAY HAVING TO GO TO THE AID OF CIVILIAN AIRCRAFT THAT RUN INTO TROUBLE ALONG THESE AIR ROUTES.

WITHIN THE ACCOMPLISHMENT OF OUR PORTION OF THE NATIONAL SAR PLAN WE MUST CONTINUALLY SUPPORT AND COORDINATE A FORCE THAT IS CAPABLE OF PROVIDING AID TO ANY US <sup>persons</sup> ~~PERSONNEL~~ THAT MAY BECOME LOST WITHIN THE UNITED STATES OR OVERSEAS.

THE ACTUAL RECOVERY OF ASTRONAUTS OR <sup>persons</sup> ~~PERSONNEL~~ OPERATING IN OUTER SPACE <sup>at</sup> ~~IN~~ SOME FUTURE DATE WILL BECOME A REALITY. TO PLAN FOR THIS TYPE OF AN OPERATION, WE CONTINUALLY MAINTAIN LIAISON WITH AIR FORCE AND NASA PERSONNEL WORKING ON STUDIES HAVING TO DO WITH THIS PROBLEM.

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IN CONSIDERING OUR FORCE REQUIREMENTS FOR THE FUTURE, THEREFORE, WE MUST CONSIDER A FORCE STRUCTURE THAT WILL GIVE US THE GREATEST CAPABILITIES WITHIN THE GENERAL AREAS DISCUSSED, AND A FORCE STRUCTURE THAT CAN BE PROVIDED WITH THE GREATEST ECONOMY TO THE UNITED STATES TAX PAYER.

GENTLEMEN, THERE ARE 4 PRINCIPLES THAT MUST BE OBEYED IN RESCUE AND RECOVERY PROGRAMMING. THESE PRINCIPLES MUST BE PURSUED TO THE MAXIMUM IF THIS NATION IS TO IMPROVE ITS SEARCH AND RECOVERY CAPABILITY. AS I COVER THESE 4 DOCTRINAL ITEMS, PLEASE BEAR IN MIND THAT <sup>only</sup> ~~ONE~~ OF THE FOUR FALLS 100% WITHIN THE REALM OF THE CAPABILITY OF THE AIR RESCUE SERVICE, AND ONLY ONE OTHER IS PARTLY THE RESPONSIBILITY OF THE RESCUE FORCES.

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THE FIRST BASIC PRINCIPLE IS  
DISCIPLINE. IT IS THE RESPONSIBILITY OF  
ALL ORGANIZATIONS TO TRAIN THEIR PERSONNEL TO  
THE POINT WHERE THEY WILL RESPOND TO THE  
SITUATION. HEAVY SHOES ARE NO GOOD TO THE  
*down on a snow covered area*  
CREWMAN WHO DOES NOT WEAR THEM BECAUSE THEY  
ARE UNCOMFORTABLE. SURVIVAL GEAR IS NO  
GOOD TO A CREWMAN WHO LEAVES IT BEHIND AND  
WANDERS OFF IN THE DARKNESS, AND AN EXPOSURE  
SUIT IS NO GOOD UNLESS WORN. THE ACCOMPLISHMENT  
OF THIS PRINCIPLE CANNOT BE PROVIDED BY THE  
AIR RESCUE SERVICE. THE INDIVIDUAL MUST  
TRAIN AND DISCIPLINE HIMSELF TO MEET THIS NEED.

THE WORD "SURVIVE" IS OUR SECOND  
PRINCIPLE. PROPER EQUIPMENT MUST BE CARRIED  
*The air crew member must*  
IN A READY STATE FOR USE WHEN REQUIRED. *PLAN*  
AND TRAIN FOR A SEIGE OF SURVIVAL ON WHATEVER  
*he*  
ENVIRONMENT ~~you~~ MAY BE SUBJECTED TO.

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THE AIR RESCUE SERVICE HAS LITTLE OR NO CONTROL OVER THIS ITEM. WE CAN ONLY SUPPLY THE TROUBLED PERSON WITH SURVIVAL EQUIPMENT AND THEN ONLY AFTER THE 3d PRINCIPLE "LOCATION" HAS BEEN ACCOMPLISHED. AT THIS POINT THE AIR RESCUE SERVICE COMES INTO THE PICTURE. THE AIR RESCUE SERVICE, UPON NOTIFICATION, WILL START TO LOCATE THE HUMAN WITH WHATEVER MEANS ~~THAT IS~~ AVAILABLE TO THE SERVICE AT THE TIME. HOWEVER, THE INDIVIDUAL BEING SEARCHED FOR MUST HELP IF AT ALL POSSIBLE. THE PERSON REQUIRING HELP MUST AT THIS TIME USE HIS TRAINING, DISCIPLINE, SURVIVAL EQUIPMENT AND KNOWLEDGE TO BE BEST OF HIS ABILITY DURING THIS CRITICAL PERIOD. THE EFFECTIVE USE OF HOMING BEACONRY IS A MUST IF THE EQUIPMENT IS AVAILABLE TO THE MAN IN DISTRESS. TWO BEACONS OF THIS TYPE ARE BEING PRODUCED OR EXPERIMENTED WITH AT THE PRESENT TIME.

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A PERSONAL LOCATOR BEACON THAT CAN BE CARRIED BY ~~REAR~~ CREW PERSONNEL IS BEING PRODUCED IN QUANTITY AT THE PRESENT TIME. THIS BEACON WAS FIRST REQUESTED BY THE AIR RESCUE SERVICE YEARS AGO, AND ONLY RECENTLY HAS ADDED EMPHASIS BEEN PLACED ON THE ACTUAL PROCUREMENT OF THIS EQUIPMENT. IT IS SAD TO REPORT THAT BEACONRY OF THIS TYPE COULD HAVE BEEN MADE AVAILABLE IN THE EARLY 50'S IF PROPER EMPHASIS HAD BEEN PLACED ON IT. A CRASH LOCATOR BEACON IS ALSO BEING EXPERIMENTED WITH, AND I BELIEVE WE CAN EXPECT THIS EQUIPMENT TO BE ABOARD USAF AIRCRAFT BY LATE 1966. ONCE AGAIN, IT IS SAD TO REPORT THAT THIS EQUIPMENT HAS BEEN USED IN CANADA FOR SEVERAL YEARS AND WAS ALSO FIRST REQUESTED BY ARS IN 1948.

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WITHIN THE AREA OF HARDWARE RECOVERY, THE AIR RESCUE SERVICE HAS BEEN ABLE TO RECOVER APPROXIMATELY 98% OF ALL REQUIREMENTS. THIS HIGH PERCENTAGE HAS BEEN MADE POSSIBLE BY GOOD HOMING EQUIPMENT PROVIDED ON THE HARDWARE ITEM TO BE RECOVERED. THIS IS ONLY NATURAL SINCE MOST OF THE EMPHASIS AND MONEY OVER THE PAST <sup>to 5</sup> 4 YEARS HAS BEEN PLACED ON THE RECOVERY OF AEROSPACE HARDWARE.

THE PERCENTAGE OF <sup>humans</sup> ~~PERSONNEL~~ RECOVERED HAS BEEN EXTREMELY LOW. IT APPEARS TO ME THAT THIS COUNTRY FOR THE FIRST TIME IN ITS HISTORY, HAS PLACED A HIGHER VALUE ON HARDWARE THAN IT HAS ON HUMAN LIVES.

THE 4TH PRINCIPLE IS "RESCUE OR RECOVER" AND IN THIS AREA THE AIR RESCUE SERVICE IS THE PROFESSIONAL RESCUE AND RECOVERY FORCE FOR THE USAF.

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THE AIR RESCUE SERVICE DOES AND WILL CONTINUE TO ACCOMPLISH THESE DUTIES IN THE FINEST PROFESSIONAL MANNER COMMENSURATE WITH THE CAPABILITY OF THE RECOVERY EQUIPMENT THAT IS MADE AVAILABLE. I WISH TO POINT OUT, HOWEVER, THAT UNLESS THE OTHER 3 PRINCIPLES OF DISCIPLINE, SURVIVAL, AND LOCATION ARE CARRIED OUT, THE VERY FINE EFFORTS OF THE AIR RESCUE SERVICE MAY GO WASTED. ALL 4 OF THESE PRINCIPLES MUST THEREFORE BE CONSIDERED AS AN ENTITY IN THE AIR FORCE'S CONSIDERATION OF SEARCH, RESCUE AND RECOVERY. ALTHOUGH I DO NOT BELIEVE IT WISE OR FEASIBLE TO SUGGEST THE COMPLETE SINGLE MANAGING BY ANY ONE COMMAND OF THESE REQUIREMENTS AND FACILITIES, I DO SUGGEST, HOWEVER, THAT MORE EMPHASIS MUST BE PLACED ON SOME KIND OF OF AN INTEGRAL TRAINING AND EQUIPPING PROGRAM THAT WOULD ASSURE

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COMPLETE STANDARDIZATION WITHIN THE PROCEDURES AND EQUIPMENT AREAS. I DO BELIEVE THAT THROUGH SOME AIR FORCE WIDE MANAGEMENT PROCEDURE THE AIR RESCUE SERVICE COULD AND SHOULD PLAY A MORE IMPORTANT ROLE IN THIS AREA.

A FLEET OF HC-130 AIRCRAFT CONFIGURED COMPLETELY FOR AIR SEARCH AND RECOVERY PURPOSES IS BEING PRODUCED BY THE LOCKHEED-GA CORP AT THE PRESENT TIME. THIS AIRCRAFT, FOR USE IN THE AIR RESCUE SERVICE, IS LONG OVERDUE. UNDER THE PRESENT PROGRAMMING, IT WILL BE LATE 1966 BEFORE THIS COMPLETE FORCE WILL BE IN-BEING. BY THAT TIME I FULLY EXPECT THAT THE C-130 AIRCRAFT WILL BE CONSIDERED IN THE OBSOLETE CATEGORY BY THE UNITED STATES AIR FORCE. WE MUST, THEREFORE, IMMEDIATELY START WORKING FOR A MORE ADVANCED SYSTEM OF RECOVERY.

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WE ARE TESTING AT THE PRESENT TIME AN ALL-WEATHER, LONG RANGE, HEAVY-LIFT CAPABLE HELICOPTER. IT IS IN THE 20,000 LB CATEGORY AND IS KNOWN AS THE CH-3C. WE HAVE RECENTLY REQUESTED THAT AN AIR-TO-AIR REFUELING CAPABILITY BE PROVIDED FOR IT. WE HAVE REQUESTED THAT THIS HELICOPTER BE AIR-TO-AIR REFUELED FROM OUR OWN HC-130 AIRCRAFT. IT IS OUR OPINION THAT THIS CAPABILITY CAN BE PROVIDED WITHIN THE MINIMUM OF TIME, AND IF THE HC-130/CH-3C SYSTEM CAN BE DEVELOPED, AND BOTH CONTRACTORS AGREE WITH US THAT IT CAN ~~EASILY~~ BE ACCOMPLISHED, IT WILL PROVIDE THE AIR RESCUE SERVICE WITH THE CAPABILITY TO GO ANY PLACE IN THE WORLD AND RECOVER ANY ITEM WITHIN THE LIFT CAPABILITY OF THE CH-3C HELICOPTER. THIS WILL GIVE THE RESCUE FORCES INDEPENDENCE FROM HARD SURFACE RUNWAYS, GASOLINE DISPERSAL & FIXED BASES.

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AS AN EXAMPLE, A STRATEGIC AIR COMMAND AIRCREW THAT MUST LEAVE THEIR AIRCRAFT ON THE ICE CAP COULD BE RECOVERED WITHIN THE MINIMUM OF TIME.

AS THIS NATION'S MILITARY TACTICAL FORCES BECOME MORE MOBILE AND SPEED BECOMES GREATER, WE FIND THAT BY VIRTUE OF THIS FORCE MOVEMENT SPEED, OUR WORLD-WIDE AREA COMMANDS ARE BECOMING SMALLER. WE, THEREFORE, MUST HAVE A RESCUE FORCE CAPABLE OF MOVING AS FAST, AS, OR FASTER THAN THE FORCE THAT WE SUPPORT. IN ANY ACCIDENT, IT IS EXTREMELY IMPORTANT THAT AID BE PROVIDED TO THE ~~PERSONNEL~~ INVOLVED AT THE EARLIEST POSSIBLE TIME. DEATH HAS A WAY OF NOT WAITING FOR A SLOW MOVING RESCUE FORCE.

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IT IS THEREFORE IMPERATIVE THAT THE UNITED STATES AIR FORCE, THE DEPARTMENT OF DEFENSE, AND THE UNITED STATES GOVERNMENT ESTABLISH A POLICY THAT WILL PROVIDE A DOD RESCUE AND RECOVERY FORCE WITH A CAPABILITY THAT WILL PROVIDE AID, WHEN REQUIRED, WITH THE LEAST POSSIBLE DELAY. THIS ESTABLISHED POLICY, BACKED UP WITH A REAL RESCUE AND RECOVERY CAPABILITY, PROVIDED NOT ONLY FOR THE UNITED STATES BUT OUR NEIGHBORS AS WELL WHEN THEY REQUEST<sup>it</sup>, WILL RESOLVE FAVORABLE MANY OF OUR COLD WAR PROBLEMS. IT WILL INDICATE FACTUALLY AND COMPLETELY THAT THIS NATION PLACES ITS HIGHEST VALUE ON ITS PEOPLE - "THE HUMAN LIFE".

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INTERVALS DECLASSIFIED ON DECEMBER  
31, 1973

AIR RESCUE SERVICE

"DEEP LOOK" BRIEFING

(1965)



PROJECT CORONA HARVEST DO NOT DESTROY CATALOGED No 0005812
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PERHAPS ONE OF THE BEST POINTS OF DEPARTURE FOR A  
LOOK INTO THE FUTURE IS TO MAKE A BRIEF REVIEW OF THE PAST.

THE HISTORY OF THE AIR RESCUE SERVICE IS A SHORT  
ONE, BUT IT IS FULL OF INTEREST AND PROVIDES A NUMBER OF  
LESSONS WHICH CAN BE RELATED TO THE FUTURE. ONE OF THE  
OBSERVATIONS WHICH CLEARLY EMERGES IS THE FACT THAT  
RESCUE GETS A LOT OF ATTENTION WHEN THE SHOOTING STARTS,  
BUT IS REGARDED AS MORE OF A LUXURY WHEN THE COMBAT  
SITUATION EASES DOWN. IF YOU EXAMINE THE FORCES  
SPECIFICALLY EMPLOYED FOR RESCUE SERVICE IN WORLD WAR II  
WITH THOSE THAT EXISTED IN THE LATE 40'S, YOU RECEIVE A  
CLEAR INDICATION OF WHAT HAPPENED. OF COURSE, THIS WAS  
NOT UNIQUE - THE DRASTIC CUTBACKS OCCURRED THROUGHOUT  
THE MILITARY SERVICE. AS A RESULT, JUST PRIOR TO KOREA,  
RESCUE HAD ONLY A HAND FULL OF ASSORTED AIRCRAFT. \_\_\_\_\_  
MONTHS LATER, THERE WERE 50 SQUADRONS AND 12 GROUPS  
DEPLOYED ON A GLOBAL BASIS.

SLIDE #1 ON

WHEN THE SHOOTING STOPPED, RESCUE WAS ONCE AGAIN  
DRASTICALLY REDUCED IN SIZE - DOWN TO THE 12 SQUADRONS

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THAT WE HAVE TODAY. WHEN THE CONFLICT IN VIETNAM  
STARTED, THE STORY WAS THE SAME - THERE WAS NO COMBAT  
CAPABILITY IN THE RESCUE SERVICE. TWO YEARS AFTER THE  
AIR FORCE HAD BEEN OPERATING IN VIETNAM, AND AT A  
COST OF TWO AND A QUARTER MILLION DOLLARS, WE WERE  
ABLE TO MUSTER A FORCE OF EXACTLY SIX SMALL HELICOPTERS -  
HASTILY EQUIPPED WITH SUFFICIENT ARMOR TO PERMIT OUR  
CREWS TO OPERATE IN A LIMITED COMBAT ENVIRONMENT.  
THIS LITTLE GROUP IS DOING A MAGNIFICENT JOB, AND THE  
REACTION OF OUR COMBAT AIRCREWS HAS BEEN MOST IMPRESSIVE,  
BUT IT IS CERTAINLY A MEAGER EFFORT BY ANY STANDARD.

FROM PERSONAL OBSERVATION, I CAN ASSURE YOU THAT  
RESCUE IS FULLY APPRECIATED IN SEA, AND OUR DEMONSTRATED  
PROFESSIONALISM HAS WON THE RESPECT OF ALL CONCERNED.

SLIDE #1 OFF, SLIDE #2 ON

THE PROPOSAL TO PUT 16 LONG-RANGE COMBAT CONFIGURED  
CH-3C'S IN SOUTHEAST ASIA IS A NATURAL FOLLOW-ON AS WE  
FINALLY COME UP TO SPEED. BUT IT IS A MATTER OF CONCERN  
THAT COMBAT RESCUE FORCES ONCE AGAIN HAVE TO BE BUILT FROM  
SCRATCH. IN TERMS OF WORLD WAR II AND KOREA, WE HAD  
TIME. NOW THE SITUATION IS DIFFERENT. THE STRATEGIC AND

TACTICAL FORCES ARE

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TACTICAL FORCES ARE KEPT IN A CONTINUOUS STATE OF READINESS, AND IT FOLLOWS ON THE BASIS OF SIMPLE LOGIC THAT RESCUE SERVICE - TO BE EFFECTIVE AND RESPONSIVE - MUST HAVE AN IN-BEING COMBAT AIRCREW RECOVERY CAPABILITY NOW IN THE FORESEEABLE FUTURE. THE SAME GENERAL SITUATION THAT PREVAILS IN VIETNAM COULD EASILY BE EXPERIENCED IN THE CONGO, SOUTH AMERICA, THE MIDDLE EAST, OR ELSEWHERE, AND THIS INCLUDES A VAST AREA OF THE WORLD.

SLIDE OFF - SLIDE #3 ON

FOR EXAMPLE, IN EUCOM AND PACOM ALONE, ARS IS TASKED IN 88 SEPARATE CONTINGENCY PLANS MOST OF WHICH WILL REQUIRE A COMBAT RECOVERY FORCE. MANY COMMANDERS AND STAFF OFFICERS STILL HAVE MEMORIES OF RESCUE IN KOREA IN THE BACKS OF THEIR MINDS AND WITHOUT ACTUAL KNOWLEDGE OF THE SITUATION, SUBCONSCIOUSLY BELIEVE THAT ARS CAN RAPIDLY MUSTER A COMBAT FORCE TO DO THE JOB IN THE SAME MANNER. UNFORTUNATELY, SUCH TRAINED AND EQUIPPED FORCES SIMPLY DO NOT EXIST TODAY NOR CAN THEY BE MADE AVAILABLE VERY RAPIDLY, AS EVIDENCED BY THE VIETNAM SITUATION.

WITH THIS SHORT LOOK AT WHERE WE HAVE BEEN, LET'S TAKE A LOOK AT WHERE WE ARE AND WHERE WE'RE GOING.

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SLIDE OFF - SLIDE #4 ON

ARS INCLUDES 91 UNITS AT 87 LOCATIONS IN THE UNITED STATES AND 21 FOREIGN COUNTRIES. WITH THE RADIUS OF ACTION OF PRESENTLY ASSIGNED AIRCRAFT, WE CAN PROVIDE RAPID RESCUE COVERAGE FROM HOME BASES TO THE AREAS SHOWN HERE. FOR PRE-PLANNED MISSIONS, WE CAN PROVIDE COVERAGE WHERE AND WHEN NEEDED, BUT IT IS NECESSARY TO DIGRESS A MOMENT TO DISCUSS THE TERM RESCUE.

IN PLAIN LANGUAGE, IT MEANS TO PHYSICALLY PICK SOMEBODY UP AND DELIVERY THEM TO SAFETY. THIS MEANS ANY PERSON, INCLUDING THOSE INCAPABLE OF HELPING THEMSELVES. WE CAN DO THIS WITH THE HELICOPTERS AND, TO A LIMITED DEGREE, WITH THE HU-16.

SLIDE OFF - SLIDE #5 ON

WE SAY TO A LIMITED DEGREE, BECAUSE THE HU-16 CAN LAND ON THE WATER DURING DAYLIGHT ONLY, UNDER RELATIVELY SMOOTH SEA CONDITIONS(@ 500 MILES MAXIMUM). ALTHOUGH A FEW SAVES HAVE BEEN MADE RECENTLY OFF VIETNAM USING THE HU-16, WE HAVE TO ACKNOWLEDGE THAT CONDITIONS WERE JUST RIGHT. FOR EXAMPLE, DURING 1963 AND 1964, HU-16'S MADE ONLY 7 OPERATIONAL WATER LANDINGS SAVING A TOTAL OF

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5 PERSONNEL, AND NONE OF THESE WERE USAF CREWMEMBERS. THE HC-54 AND THE HC-97, OF COURSE, CAN'T EVEN DO THIS MUCH. THEIR CAPABILITY LIES IN FINDING THE INDIVIDUAL AND DROPPING EITHER PARARESCUE TEAMS OR SURVIVAL EQUIPMENT, THEN ARRANGING FOR SOME OTHER VEHICLE TO ACTUALLY RESCUE THEM. SO, IN REALITY, THESE AIRCRAFT ARE RENDERING AID OR ASSISTANCE - NOT RESCUE. THIS HAS BEEN AN ACCEPTABLE METHOD OF PROVIDING ASSISTANCE, PRIMARILY BECAUSE THERE WASN'T ANYTHING BETTER. THIS IS WHERE THE CHALLENGE LIES.

WITH THE GRADUAL BLENDING OF AERONAUTICS AND ASTRONAUTICS, IT HAS BECOME APPARENT THAT WE MUST EXTEND OUR RESCUE/RECOVERY RESOURCES TO COVER SPACE PROJECTS AS WELL AS AIR OPERATIONS.

SLIDE OFF - SLIDE #6 ON

CONCURRENTLY, WE ARE IN THE PROCESS OF RETIRING OUR AGED HC-54 AND HC-97'S AND REPLACING THEM WITH MODERN HC-130'S.

SLIDE OFF - SLIDE #7 ON

WE ALSO HAVE A HANDFUL OF CH-30'S AT PATRICK AFB TO PROVIDE AN EFFECTIVE RESCUE CAPABILITY IN CASE OF LAUNCH

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PAD ABORT, AND TO PARTICIPATE IN MANY OTHER MISSIONS DIRECTLY CONNECTED WITH SPACE OPERATIONS. THIS PROGRAM IS A FIRST STEP IN THE RIGHT DIRECTION BUT IS CERTAINLY NOT AN END IN ITSELF. THIS SUBJECT WILL BE DISCUSSED FURTHER A LITTLE LATER ON. CONSIDER NOW, THE VARIOUS FUNCTIONAL RESPONSIBILITIES BY TYPES OF RESCUE AIRCRAFT AND THE VARIOUS INTER-RELATIONSHIPS.

SLIDE OFF - SLIDE #8 ON

FIRST, FIXED WING AIRCRAFT. AS OF THE FIRST OF JAN 1967, OUR CONVERSION TO HC-130 WILL HAVE BEEN COMPLETED AND THE HC-54'S AND HC-97'S RETIRED OR REASSIGNED TO RESERVE UNITS. AS CURRENTLY PROGRAMMED, THE FORCE WILL CONSIST OF 54 UE HC-130'S WITH 6 ADDITIONAL COMMAND SUPPORT AIRCRAFT AUGMENTED BY 30 HU-16'S WITH 4 ADDITIONAL FOR COMMAND SUPPORT. THIS WOULD BE AN EFFECTIVE FORCE FOR THE NORMAL DAY-TO-DAY FIXED WING MISSION OF PROVIDING PRECAUTIONARY AND EMERGENCY COVERAGE FOR DEPLOYING TACTICAL AIRCRAFT, AND OTHER AREA SEARCH AND RESCUE MISSIONS.

OVERLAY #1 .

BUT SUPERIMPOSED ON TOP OF THE NORMAL MISSION REQUIREMENTS IS THE SPACE RECOVERY MISSION WHICH REQUIRES

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EXTENSIVE DEPLOYMENT, AS SHOWN ON THIS SLIDE. THIS IS TYPICAL OF THE DEPLOYMENT REQUIRED, HOWEVER, SPECIFIC LOCATIONS MAY CHANGE FROM TIME TO TIME DEPENDING ON THE PLANNED GROUND TRACK OF THE ORBITING SPACECRAFT. GENERALLY SPEAKING, HOWEVER, THIS FORCE MUST BE DEPLOYED SO AS TO LOCATE THE SPACECRAFT IN ANY LOCATION AROUND THE GLOBE FROM 40° N TO 40° S, AND THEN TO RECOVER OR RENDER AID TO THE CREW WITHIN AN 18-HR PERIOD AFTER THE SPACECRAFT HAS REENTERED THE EARTH'S ATMOSPHERE. THIS, OF COURSE, WOULD BE IN THE CASE OF CONTINGENCY RE-ENTRY FOR WHICH WE HAVE 36 ACFT DEPLOYED. IN ADDITION TO CONTINGENCY DEPLOYMENT, WE WILL ALSO PROVIDE 10 HC-130'S FOR PINPOINTING THE SPACECRAFT IN THE PLANNED LANDING AREA WHICH IN THE CASE OF

SLIDE OFF - SLIDE #9 ON

APOLLO MISSIONS HAVE A LANDING FOOTPRINT OF 1000 BY 5000 MILES. THE TOTAL REQUIREMENT ADDS UP TO 46 HC-130'S FOR THE SPACE RECOVERY MISSION. THIS EQUATES TO APPROXIMATELY 76% OF THE 60 AIRCRAFT FOR WHICH WE ARE PROGRAMMED. HOWEVER, 6 OF THIS NUMBER ARE COMMAND SUPPORT SO THAT AIRCREWS AND ADDITIONAL MAINTENANCE PERSONNEL MUST COME OUT OF OUR HIDE TO MEET THE 46 AIRCRAFT REQUIREMENT.

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WE FEEL ONE OF THE FIRST ACTIONS WE MUST TAKE TO ESTABLISH AN EFFECTIVE SPACE RECOVERY FORCE IS TO HAVE THESE 6 COMMAND SUPPORT AIRCRAFT DESIGNATED AS UE. AT THESE DEPLOYED LOCATIONS OUR AUGMENTED CREWS AND MAINTENANCE PERSONNEL WILL BE ON CONTINUOUS RAPID REACTION ALERT FOR THE DURATION OF THE SPACE SHOT. AN ADDITIONAL SIX AIRCRAFT DESIGNATED AS UE WILL ALLEVIATE THIS SITUATION TO A DEGREE BY PROVIDING ADDITIONAL MANPOWER SPACES.

SLIDE OFF - SLIDE #10 ON

WHILE OUR HC-130 FLEET IS TOTALLY INVOLVED IN THE SPACE RECOVERY BUSINESS, THE REMAINDER OF THE RESCUE FLEET THEORETICALLY PICKS UP ALL REMAINING SEARCH, RESCUE AND RECOVERY MISSIONS. IN ACTUAL PRACTICE, THE HC-130'S ON SPACE ALERT WILL RESPOND TO AN EMERGENCY REQUIREMENT OF ANY SORT SO THAT, IN FACT, OUR BASE AREA OF OPERATIONS AROUND THE GLOBE IS EXPANDED. HOWEVER, THE ACTUAL NUMBERS OF AIRCRAFT ON THE LINES OF COMMUNICATION ARE DIMINISHED, AND, IN FACT, DIMINISHED TO AN UNACCEPTABLE DEGREE.

SLIDE OFF - SLIDE #11 ON

DEPLOYMENT OF THE IN-COMMISSION HC-130 FLEET WILL LEAVE 30 HU-16'S IN FOUR SQUADRONS TO RESPOND TO ALL

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OTHER USAF SAR REQUIREMENTS AROUND THE GLOBE.

OVERLAY #1

THREE OF THESE, BY TAIL NUMBER, ARE ASSIGNED TO THE HU-16 SCHOOL AT EGLIN WHERE THEY ARE REQUIRED TO INSURE THE FLOW OF QUALIFIED PERSONNEL TO OUR OVERSEAS HU-16 UNITS. APPLYING THE STANDARD IN-COMMISSION RATE OF 71% TO THE REMAINDER OF 27,

OVERLAY #2

WE COME UP WITH 19 AIRCRAFT FOR THE TOTAL NORMAL SAR FUNCTION.

OVERLAY #3

FIVE OF THESE ARE DEPLOYED IN VIETNAM ON A ROTATIONAL BASIS, LEAVING A TOTAL OF 14 AVAILABLE.

OVERLAY #4

TWO ARE ON CONTINUOUS DEPLOYMENT TO HOMESTEAD AFB FOR CARIBBEAN COVERAGE, WHICH IS AN INDEFINITE COMMITMENT, LEAVING 12 AVAILABLE WORLD-WIDE.

OVERLAY #5

OF THESE 12, FIVE WILL BE REQUIRED FOR EMERGENCY ALERT AT EACH SQUADRON LOCATION NOT COVERED BY THE HC-130

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FLEET, LEAVING AN AVERAGE OF 7 HU-16'S PER DAY.

#### OVERLAY #6

ADVANCED BASE STRIP ALERT REQUIREMENTS OF 3 AIRCRAFT PER DAY DIMINISH THIS NUMBER TO 4 HU-16'S TO MEET ALL OTHER USAF GLOBAL REQUIREMENTS, OTHER THAN EMERGENCY. EVEN THIS FIGURE IS SOMEWHAT SUSPECT IF WE CAN JUDGE BY RECENT IRAN AVERAGES OF 7 HU-16'S AT A GIVEN TIME, WHICH IS 3 MORE THAN THE 4 AIRCRAFT COMMAND SUPPORT CUSHION. POSSIBLY A REACTION TO THIS RUNDOWN COULD BE SOMETHING LIKE - YOU CAN PROVE ANTHING BY USING STATISTICS TO SHOW A POINT - AND BESIDES, THESE SPACE SHOTS ARE ONLY FOR A COUPLE OF DAYS, ANYHOW. LET ME DISPELL SUCH A THOUGHT TREND, IF IT EXISTS.

FIRST, THESE ARE AIRFRAMES WE'RE TALKING ABOUT - NOT STATISTICS - AND, AS MUCH AS WE'D LIKE TO, WE CAN'T JUGGLE AIRFRAMES LIKE WE MANIPULATE STATISTICS. SECONDLY, WE'RE NOT TALKING ABOUT PERIODS OF TWO OR THREE DAYS FOR SPACE RECOVERY DEPLOYMENT BECAUSE DURING THIS PERIOD WE'RE COMING INTO A SITUATION WHERE THE SPACE PROGRAMS OVERLAP -

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GEMINI, APOLLO

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GEMINI, APOLLO AND MOL - AND SO DO OUR DEPLOYMENT REQUIPEMENTS. THE FREQUENCY AND OVERLAP OF SPACE LAUNCHES INCREASES THROUGH 1967, UNTIL IN 1968, THE HC-130 FLEET WILL BE DEPLOYED AT LEAST 50% OF THE TIME. FOR EXAMPLE, IN JULY, AUGUST AND SEPTEMBER OF 1968, TENTATIVE SCHEDULES CALL FOR TWO APOLLO LUNAR MISSIONS OF 10 DAYS EACH AND ONE MOL MISSION OF 30 DAYS. THESE COULD OCCUR ALL IN THE SAME 30 DAY PERIOD, BUT WE HAVE TO PLAN FOR THE WORST SITUATION. BY TACKING ON THREE DAYS ON EACH END OF EACH MISSION FOR DEPLOYING, RE-DEPLOYING AND EXERCISING, IT IS POSSIBLE THAT THE HC-130'S WILL BE DEPLOYED 75% OF THE TIME. IN EITHER CASE, IN EXCESS OF 50% APPEARS TO BE A REASONABLE ASSUMPTION. BY 1970, CURRENT FORECASTS LEAD US TO BELIEVE THAT THERE WILL BE MEN IN SPACE CONTINUOUSLY AND, AT ANY TIME, AT ANY LOCATION AROUND THE GLOBE, AN EMERGENCY IN THE SPACECRAFT MAY REQUIRE IMMEDIATE RE-ENTRY FOR A CONTINGENCY LANDING. THIS MEANS CONTINGENCY DEPLOYMENT 100% OF THE TIME WHEN THIS COMES TO PASS.

THIS THEN, IS HOW THE FUTURE LOOKS FOR THE FIXED-WING AIRCRAFT IN AIR RESCUE SERVICE AS CURRENTLY PROGRAMMED - AND IT LOOKS DIM, UNLESS SUFFICIENT ADDITIONAL RESOURCES ARE MADE AVAILABLE TO DO THE JOB PROFESSIONALLY.

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SLIDE OFF - SLIDE #13 ON

SPECIFICALLY, AN AUGMENTATION OF 41 UE HC-130H AIRCRAFT IS REQUIRED TO REPLACE THE HU-16'S STARTING IN THE THIRD QUARTER OF FISCAL 67. THE HU-16 HAS PLAYED AN IMPORTANT ROLE IN RESCUE IN THE PAST BUT IS TIME-WORN, OBSOLESCE, AND INCREASINGLY DIFFICULT AND COSTLY TO MAINTAIN. THE USAF IG RECOGNIZED THIS IN THEIR RECENT APS CAPABILITY REPORT, AND FIRM ACTIONS MUST BE TAKEN NOW IF WE ARE TO PROGRAM REPLACEMENT IN FISCAL 67.

OVERLAY #1

THESE ADDITIONAL HC-130'S WILL BE ASSIGNED TO EXISTING SQUADRONS, WITH THE EXCEPTION OF FIVE AIRCRAFT, WHICH WILL FORM THE FIXED WING ELEMENT OF A SQUADRON TO BE ACTIVATED IN ALASKA. JUSTIFICATION FOR THIS NEW UNIT IS CONTAINED IN THE DOCUMENT BUT, SIMPLY STATED, THERE IS A LARGE GAP IN RESCUE CAPABILITY IN THE POLAR REGIONS WITH SUFFICIENT AND SIGNIFICANT MILITARY TRAFFIC TO JUSTIFY THE ESTABLISHMENT OF A NEW UNIT. WITH THIS UNIT IN ALASKA, LONG RANGE HELICOPTERS AT THULE AB, AND THE 67TH SQ OPERATING FROM PRESTWICK, WE WILL HAVE A CAPABILITY TO COVER THE ENTIRE NORTH POLAR REGION, AS SHOWN ON THIS SLIDE.

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OUR HELICOPTER REQUIREMENTS WILL BE DETAILED SHORTLY BUT FIRST; TO SUMMARIZE THE FIXED WING AIRCRAFT REQUIREMENTS WE BELIEVE THE FOLLOWING ACTIONS ARE REQUIRED TO PROVIDE THE AIRCRAFT NECESSARY TO MEET ASSIGNED FIXED-WING MISSIONS:

SLIDE OFF - SLIDE #15 ON

1. RE-DESIGNATE THE SIX HC-130H COMMAND SUPPORT AIRCRAFT AS UE AIRCRAFT.
2. COMMENCE PHASE-OUT OF THE HU-16, STARTING  
IN FQ 3/67.
3. REPLACE THE HU-16'S WITH HC-130H'S,  
BUILDING TO A TOTAL FORCE OF 101 UE WITH 10 COMMAND  
SUPPORT AIRCRAFT BY FQ 4/68.
4. ACTIVATE THE XX AR SQ AT ELMENDORF AFB,  
ALASKA IN FQ 3/68.

THIS IS NOT A PROGRAM DESIGNED TO FATTEN RESCUE -  
ON THE CONTRARY, THE REQUIREMENT FOR EACH AIRCRAFT IS  
DOCUMENTED IN OUR STUDY, AND THE FORCE WILL REMAIN LEAN  
AND HUNGRY THROUGHOUT THE PERIOD IN RELATION TO THE  
JOBS TO BE DONE.

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RELATING BACK TO SOME OPENING COMMENTS REGARDING AID OR ASSISTANCE VERSUS RESCUE MIGHT LEAD TO AN OPINION THAT EXPENDITURES FOR ADDITIONAL HC-130H'S CAN NOT BE JUSTIFIED ON THE BASIS OF AID TO BE RENDERED RATHER THAN RESCUES TO BE PERFORMED. THE FACTS ARE THAT THE DISTRESSED PERSONNEL MUST BE FOUND BEFORE THEY CAN BE RESCUED AND RAPID LOCATION IS OF THE UTMOST IMPORTANCE. THE CHANCES FOR SURVIVAL DECREASE RAPIDLY FOLLOWING A CRASH OR BAIL-OUT, DUE TO SHOCK, INJURY, OR EXPOSURE. THIS DICTATES THAT THE PRIMARY SEARCH AIRCRAFT HAVE SUFFICIENT SPEED, RANGE, AND ENDURANCE CAPABILITIES TO COPE WITH THE LOCATION PROBLEM SUPPLEMENTED BY A CAPABILITY TO PROVIDE ON-SCENE ASSISTANCE BY DROPPING SURVIVAL GEAR OR PARARESCUE TEAMS, IF REQUIRED. THE HC-130H FILL THE BILL FOR THIS REQUIREMENT IN THE CASE OF THE SPACE RECOVERY MISSION OR THE NORMAL LOC MISSION. IT ALSO HAS THE CAPABILITY TO RETRIEVE INDIVIDUALS OR SMALL GROUPS BY EMPLOYMENT OF THE FULTON RECOVERY SYSTEM. WE HAVE A SHORT FILM WITH US WHICH WILL SHOW YOU HOW THE FULTON SYSTEM WILL BE USED BY OUR HC-130'S.

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AT FIRST EXPOSURE, THE FULTON SYSTEM DOESN'T APPEAR VERY PALATABLE TO THE AVERAGE CREW MEMBER. THIS IS UNDERSTANDABLE BECAUSE IT IS A NEW CONCEPT. THE THOUGHT OF GOING FROM A STANDSTILL TO 120 KNOTS IN A MATTER OF SECONDS ON THE END OF A LONG ROPE ISN'T EXACTLY APPEALING BUT THIS IS PRIMARILY A MATTER OF AIRCREW EDUCATION. THE FACTS ARE THAT THERE IS PRACTICALLY NO LIFTING SHOCK - THE SENSATION IS MORE ONE OF TUGGING RATHER THAN A JERK OR A JOLT. THOSE OF YOU WHO HAVE MADE A PARACHUTE JUMP MAY RELATE IT TO LESS THAN ONE-THIRD OF THE "G" FORCES ENCOUNTERED WHEN THE PARACHUTE OPENS.

AS TIME PASSES, AND SUCCESSFUL RECOVERIES ARE MADE, THE FULTON SYSTEM WILL COME INTO ITS OWN - BUT ONLY IN THE CASE OF INDIVIDUALS IN SUITABLE MENTAL AND PHYSICAL CONDITION. THIS IS THE MAJOR LIMITATION OF THE FULTON SYSTEM, BUT AIR RESPONSIBILITY DOES NOT END HERE. IF THE RECOVERY REQUIREMENT EXCEEDS THE HC-130 SYSTEM CAPABILITIES, THE OPTIONS ARE TO ATTEMPT RESCUE BY OPPORTUNE SURFACE MEANS, OR TO PROVIDE A COMPLEMENTARY SYSTEM, WHICH, IN OUR OPINION, IS EXEMPLIFIED BY THE CH-3C HELICOPTER.

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WE ARE PARTICULARLY ENTHUSIASTIC ABOUT THE CH-3C, AS A RESULT OF THE CATEGORY III TESTS CONDUCTED FOR USAF BY OUR DETACHMENT AT PATRICK AFB. IN ALL CASES, PERFORMANCE OF THIS VTOL AIRCRAFT HAS EXCEEDED THE MANUFACTURER'S CLAIMS. THE CH-3C, WHEN MATED WITH THE HC-130H, WILL PROVIDE ARS WITH THE CAPABILITY TO RETRIEVE PERSONNEL AND HARDWARE FROM ANY SURFACE OR LOCATION IN ACCESSIBLE AIRSPACE.

*what we have considered that*  
~~OUR~~ <sup>by possible capability of development</sup> ULTIMATE GOAL IS AN AIR RESCUE FORCE CONSISTING OF ONE TYPE OF ORGANIC AIRCRAFT. <sup>Indicate that it is all based on the assumption of complementary</sup> THIS AIRCRAFT ~~MUST~~ POSSESS OCEAN SPANNING RANGE AND HIGH-SPEED, PLUS THE LOW-DOWNWASH HOVERING AND CONTROL QUALITIES OF THE HELICOPTER. IT MUST ALSO BE CONVERTIBLE TO A HEAVYLIFT AERIAL CRANE CONFIGURATION. THIS TYPE, NOW WITHIN THE STATE OF THE ART, WILL BE DISCUSSED LATER.

UNTIL SUCH A VEHICLE IS OPERATIONAL, LONG-RANGE FIXED-WING AIRCRAFT, IN COMBINATION WITH HIGH-PERFORMANCE HELICOPTERS, WILL BE REQUIRED TO ENABLE ARS TO RESCUE PEOPLE AND RECOVER HARDWARE FROM ANYPLACE AT ANY TIME.

IN ESSENCE, THIS IS NOT A NEW CONCEPT. HU-16'S TEAMED WITH H5'S AND H-19'S TO RESCUE 9680 PEOPLE DURING THE

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KOREAN WAR. THE HU-16 DID THE SEARCH-LOCATION JOB AND WHEN CONDITIONS WERE RIGHT, ALSO PERFORMED THE ACTUAL RESCUE. 9219 TIMES IN THAT WAR, CONDITIONS WEREN'T RIGHT - AND THE RESCUE WAS PERFORMED BY OUR FLIMSY HELICOPTERS OF THAT DAY.

THE CONCEPT OF MATING THE HELICOPTER AND THE FIXED-WING AIRCRAFT CONTINUED AFTER KOREA, BUT NO SUBSTANTIAL IMPROVEMENTS WERE MADE IN EITHER VEHICLE TO ENHANCE THE COMBAT RESCUE FORCE. THIS COMBAT AIR RESCUE FORCE NOT ONLY DWINDLED IN SIZE, BUT NONE OF THE MEANINGFUL DEVELOPMENTS IN VTOL AIRCRAFT WERE INCORPORATED IN AIR RESCUE SERVICE EQUIPMENT TO KEEP AND UPDATE THE CONCEPT. TO THE CONTRARY, BY 1961, THIS STILL VALID CONCEPT WAS DORMANT. USAF'S COMBAT AIR RESCUE FORCE CONSISTED OF 56 FIXED-WING AIRCRAFT - TWENTY SA-16'S AND 36 C-54'S. WE COULD SEARCH, LOCATE, RENDER AID (PARARESCUE) AND ACTUALLY RESCUE A FEW PEOPLE, BUT ONLY WITHIN THE LIMITED CAPABILITY OF THE SA-16. SOMETHING LIKE HAVING BOMBERS IN SAC WITHOUT BOMBS.

FORTUNATELY, DURING THIS LULL, SOME MEANINGFUL IMPROVEMENTS IN HELICOPTERS DID TAKE SHAPE IN THE U. S. NAVY. TWIN-TURBINE, HIGH SPEED, ALL WEATHER S61A

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HELICOPTERS WERE DEVELOPED AS A PRIME WEAPON SYSTEM FOR USE IN ANTI-SUBMARINE WARFARE. THIS IS SIGNIFICANT BECAUSE MANY OF THE REQUIREMENTS AND ELEMENTS OF THE ASW MISSION HAVE VALID APPLICATION IN THE COMBAT AIR RESCUE HELICOPTER MISSION. THESE ELEMENTS ARE THE ABILITY TO TRANSIT ALL-WEATHER CONDITIONS, INCREASED RANGE FOR SEARCH-PROLONGED HOVER, SELF-CONTAINED DOPPLER NAVIGATION SYSTEM, INCREASED CRUISE SPEED, AND A TRI-PHIBIOUS CAPABILITY. THESE AND OTHER IMPROVEMENTS WERE INCORPORATED IN THE SIKORSKY S-61 HELICOPTER WHICH IS THE FORERUNNER OF THE CH3C WAS PROCURED ARE THOSE FOR WHICH WE ARE RESPONSIBLE. YET, NONE OF THE 107 AIRFRAMES PROGRAMMED INTO USAF FOR AIRLIFT, AEROSPACE HARDWARE RECOVERY, AND WAR CASUALTY RECOVERY WERE PROGRAMMED INTO ARS. THEY WERE FRAGMENTED AND PROGRAMMED INTO SAC, ADC, AFSC, ADC, APCS, AND AWS. MATS, ADC, AND ATC WERE ALTERNATELY DESIGNATED AS THE "USING" COMMAND TO CONDUCT CATEGORY III OPERATIONAL SUITABILITY TESTS. AS YOU KNOW, IN MAY 1964, USAF REDIRECTED MATS AS THE CH3C "USING COMMAND." ARS TOOK OVER THE ACTUAL CAT III FLIGHT TEST PROGRAM FROM ATC. SINCE THIS PROGRAM HAS BEEN ASSIGNED AND PERFORMED BY ARS, IT'S STAYED ON, OR AHEAD

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OF, SCHEDULE. THIS, EVEN THOUGH ONLY ONE OF THREE DESIGNATED CH3C'S WAS ASSIGNED FOR THE GREATER PART OF THE SCHEDULED TEST SERIES, AND IT WAS LOANED TO TAC FOR TWO WEEKS TO ASSIST IN PROJECT SOUTH SHORE. 97% OF THE CAT III TEST PROGRAM IS NOW COMPLETED. WE'RE NOT LOOKING FOR A PAT ON THE BACK. WHAT IS IMPORTANT, HOWEVER, IS THAT THE AIR RESCUE SERVICE, WITH AN IN-BEING STAFF, ORIENTED TO HELICOPTER OPERATIONS, MADE ON SCHEDULE PROGRESS, WHERE OTHERS FOUNDERED. HAD ARS NOT BEEN ASSIGNED THIS TEST PROGRAM, IT'S DOUBTFUL THAT THE ON-PAD CH-3C LAUNCH RESCUE FORCE WOULD HAVE BEEN QUALIFIED AND IN-BEING IN TIME FOR THE ASTRONAUT RECOVERY MISSION DURING GT-3. TODAY, ONLY FOUR CH-3C'S ARE ASSIGNED IN ARS AT PATRICK. FOUR MORE ARE PROGRAMMED INTO OUR DETACHMENT AT GOODFELLOW. A MEAGER TOTAL OF EIGHT CH-3C'S ARE NOW PROGRAMMED. EVEN PRIOR TO THESE EVENTS, ARS VIEWED THE CH-3C'S AS THE BEST AVAILABLE VTOL AIRCRAFT TO COMPLIMENT PROGRAMMED FIXED-WING HC-130'S TO FORM AN UPDATED COMBAT RESCUE AND HARDWARE RECOVERY FORCE. EXCELLENT CATEGORY III TEST RESULTS CONFIRMED OUR

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VIEW, AND ARS SUBMITTED QOR'S TO BETTER ADAPT THE CH-3C FOR THE ARS MISSION TO INCLUDE AIR TO AIR REFUELING FROM THE HC-130H. ASD PRELIMINARY FLIGHT TESTS INITIALLY INDICATE AIR TO AIR REFUELING FEASIBLE, BUT NO FURTHER ACTIONS HAVE BEEN TAKEN TO DATE. WE'VE PROVEN THAT THE CH-3C HAS A PRACTICAL 1000 MILE RANGE USING INTERNAL AUXILIARY TANK, TAKING OFF AND LANDING VERTICALLY. WE BELIEVE RUNNING TAKE-OFFS WOULD INCREASE THE RANGE TO ABOUT 1500 NM. THIS HAS NOT BEEN TESTED AND ISN'T IN THE CAT III TEST SERIES YET. THE ABILITY TO AIR-TO-AIR REFUEL WOULD GIVE CH3C UNPARALLELED RESCUE CAPABILITY IN THE FORM OF OCEAN SPANNING LOW ALL WEATHER VTOL CAPABILITY WITHOUT DEPENDENCE ON OR DEPLETION OF CRITICAL AIRLIFT FORCES. RESCUE WHERE IT'S NEEDED, WHEN NEEDED, WITHOUT COSTLY TEAR-DOWN, OR REASSEMBLY. THE EXPENDITURES IN PRECIOUS TIME AND ADDITIONAL HARDWARE TO MAKE AIR-TRANSPORTABILITY WORK, CAN ALSO BE SAVED BY THIS RANGE EXTENSION METHOD.

WITH AIR-TO-AIR REFUELING A PRACTICAL REALITY, RECOVERY OF INJURED OR NON-AMBULATORY ASTRONAUTS ALSO

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BECOMES A PRACTICAL REALITY AT GREATER RANGES. THE FIRST OF 27 PROJECT APOLLO MISSIONS IS PROGRAMMED FOR THE FIRST QUARTER OF CALENDAR YEAR 1966. THE MANNED OR "500" SERIES MISSIONS BEGIN IN THE THIRD QUARTER OF CALENDAR 1967. WE KNOW THAT 60 UE HC-130H'S WILL BE IN THE ARS INVENTORY BY THIS TIME. UNLESS THE "HH"-3C, CAPABLE OF BEING AERIAL REFUELED IS ALSO IN THE INVENTORY, OUR RECOVERY FORCE IS LIMITED TO COMPLETE DEPENDENCE UPON THE FULTON RECOVERY SYSTEM. WE KNOW THAT SAFETY OF THE ASTRONAUTS, FROM LAUNCH TO RECOVERY IS OF PARAMOUNT CONCERN IN ALL U. S. MANNED SPACE MISSIONS. WE HAVE GOOD REASON TO BELIEVE THAT REDUNDANCE IN RECOVERY SYSTEMS WILL CONTINUE TO BE REQUIRED BY NASA. ~~COMPLETE RELIANCE UPON THE MAN-RATED FULTON RECOVERY SYSTEM IS ALREADY BEING QUESTIONED BY NASA RECOVERY OFFICIALS. THEY PHYSICAL AND MENTAL CONDITION OF THE ASTRONAUTS MAY ENTIRELY RULE OUT EMPLOYMENT OF THE SYSTEM FOR SPACE RECOVERY MISSIONS, OR AT BEST, IT'S USE WILL BECOME A LAST DITCH METHOD.~~ EIGHTEEN HOUR ACCESS TIME, AND THE ECONOMICS OF EMPLOYING NUMEROUS U. S. NAVY SHIPS OF-THE-LINE AS HELICOPTER CARRIERS MITIGATE AGAINST THEIR CONTINUED USE. A GLOBAL

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AIR RECOVERY MIXED FORCE IS REQUIRED NOW AND THROUGHOUT THE 1975 TIME PERIOD, AND THE MOST URGENT REQUIREMENT IS FOR AN ARS FORCE OF CH3C'S TO OPERATE IN CONJUNCTION WITH THE HC-130H FORCE.

SLIDE OFF - SLIDE OR FLIP

THESE ARE SHOWN HERE. WITH THIS FORCE WE HAVE REAL RESCUE COVERAGE AND A CAPABILITY TO GO TO WAR.

LBR - WHEN THE CH3C'S ARE IN THE INVENTORY, WE WILL REPLACE LIMITED PURPOSE LOCAL BASE RESCUE HELICOPTERS ON THOSE BASES WHERE WE'VE PROGRAMMED THE CH3C. THIS IS POSSIBLE BECAUSE THE CH3C IS ALSO AN EXCELLENT FIRE-SUPPRESSION HELICOPTER, ABLE TO BE SCRAMBLED IN 3 MINUTES OR LESS. WE ARE OF THE OPINION THAT THE CONCEPT OF LOCAL BASE RESCUE IS VALID AT ALL AIR FORCE BASES WHERE FLYING IS CONDUCTED. BUT WE ALSO BELIEVE IT A LUXURY WE CAN'T AFFORD AT ALL BASES. THE CONCEPT IS VALID, AND WE RECOMMEND IT BE CONTINUED THROUGHOUT THE TIME PERIOD BUT ONLY AT AIR TRAINING COMMAND BASES, TACTICAL TRAINING BASES, AND AT ALL GUNNERY RANGES. TODAY, THERE IS NO PROGRAM TO UPDATE THESE AIRCRAFT ALTHOUGH THE FIRST AIRCRAFT RECEIVED IN 1958 HAVE EXCEEDED THESE FIRST LINE LIFE. NUMBERS OF LBR DETACHMENTS MAY EVEN BE REDUCED

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BECAUSE WE BELIEVE THE LBR REQUIREMENT IS JUSTIFIED ONLY UNDER HIGH RISK CONDITIONS. THE REPLACEMENT LBR HELICOPTER MUST BE A TWIN-TURBINE MACHINE, WITH IFR CAPABILITY. WE BELIEVE A REPLACEMENT HELICOPTER FOR THIS MISSION CAN BE PROCURED FOR LESS THAN HALF THE COST OF THE PRESENT MACHINE. A SMALL OFF-THE-SHELF HELICOPTER COULD MEET THIS REQUIREMENT. OUR QOR FOR A REPLACEMENT TWIN TURBINE LBR HELICOPTER IS INCLOSED IN OUR STUDY.

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A LIMITED NUMBER OF HEAVY-LIFT HELICOPTERS EXEMPLIFIED BY THE U. S. ARMY CH-47 CHINOOK OR THE U. S. MARINE CH-53A ~~ARE~~ <sup>BE</sup> NEEDED TO ASSURE RECOVERY OF HEAVY AEROSPACE HARDWARE. THE APOLLO SPACECRAFT WEIGHS 10,000 LBS WHICH IS 4000 LBS BEYOND THE EXTERNAL SLING-LOAD CAPABILITY OF THE CH3C.

THE CH3C IS FAR MORE ECONOMICAL TO OPERATE AND MEETS 90% OF OUR MISSION REQUIREMENTS. FOR THIS REASON ONLY A LIMITED NUMBER OF HEAVY LIFT HELICOPTERS WILL BE REQUIRED FOR APOLLO CAPSULE RECOVERY IN THE PLANNED LANDING AREAS. IT APPEARS REASONABLE TO ASSUME THAT ADDITIONAL HEAVY LIFT MISSIONS WILL BE REQUIRED IN FURTHER SPACE RESEARCH AND DEVELOPMENT PROGRAMS.

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SECTION VI - SUPPORTING SYSTEMS

1. ACQUISITION OF AIRCRAFT ALONE WILL NOT PROVIDE A COMPLETE RESCUE SYSTEM BUT MUST BE SUPPORTED BY OTHER ELEMENTS. ANY SYSTEMS IN SUPPORT OF THE RESCUE/RECOVERY MISSION REGARDLESS OF SPECIFIC TIME FRAMES MUST LEND THEMSELVES TO COMPLETE FLEXIBILITY. THEY MUST BE CAPABLE OF EXPANDING AND ADAPTING TO CHANGING CONCEPTS OR UPDATING OF EQUIPMENT BROUGHT ABOUT BY STATE-OF-THE-ART IMPROVEMENTS.
2. WITHIN THE MATERIEL AREA THE VAST SYSTEM NECESSARY TO SUPPORT WORLD-WIDE DEPLOYMENT AND DISPERSAL IS ALREADY IN-BEING AND LENDS ITSELF QUITE ADEQUATELY TO SUPPORTING OUR MISSION. AFLC'S YEARS OF EXPERIENCE IN SUPPORTING TACTICAL AIR COMMAND, COMPOSITE AIR STRIKE FORCES, MATS AIRLIFT EXERCISES AND SAC REFLEX ACTIONS HAVE REFINED AND POLISHED THEIR SUPPORTING SYSTEMS. GIVEN SUFFICIENT PRIORITY AND PRECEDENCE RATINGS THIS SYSTEM SHOULD PROVE EFFECTIVE IN SUPPORTING ARS GLOBAL REQUIREMENTS. DURING DEPLOYMENT THE USE OF MISSION SUPPORT KITS (MSK'S) AND ACCOMPANYING MAINTENANCE PERSONNEL WILL PERMIT LIMITED MAINTENANCE IN THE FIELD. ALL SCHEDULED MAINTENANCE AND PHASE INSPECTIONS WILL BE ACCOMPLISHED AT HOME STATION. WHILE A CONSOLIDATED MAINTENANCE SYSTEM


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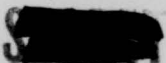
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IS EFFECTIVE FOR GENERAL MAINTENANCE IT DOES NOT LEND ITSELF TO ADEQUATELY SUPPORTING THE AIR RESCUE SERVICE IN THOSE AVIONICS AREAS WHERE WE OPERATE SYSTEMS PECULIAR TO US ALONE. ALTHOUGH THIS PROBLEM IS NOT UNIQUE AND MAY SEEM EASILY SOLVED IT CANNOT BE SOLVED UNLESS SPECIFIC AUTHORITY IS INCLUDED IN APPROPRIATE MANNING AND EQUIPPING DOCUMENTS. WE HAVE REQUESTED SUCH AUTHORITY WITHIN OUR STUDY.]

3. UPDATING OF PRESENT EQUIPMENT TO EXPLOIT ITS FULL POTENTIAL, ADAPTATION AND USE OF EXISTING SIGNALLING DEVICES AND A GENUINE AWARENESS OF A NEED FOR NEW IDEAS IS NECESSARY TO IMPROVE RESCUE EFFECTIVENESS. ARS HAS TAKEN ACTION BY SUBMITTING QUALITATIVE OPERATIONAL REQUIREMENTS AND CLASS V MODIFICATION REQUESTS TO IMPROVE OUR CAPABILITIES. FOR EXAMPLE, WE MENTIONED A QOR FOR AN AIR-TO-AIR REFUELING SYSTEM FOR THE CH3C HELICOPTER WHICH WAS SUBMITTED ON 7 AUGUST 1964.

WE ALSO ESTABLISHED A QOR FOR AN AERIAL RETRIEVAL SYSTEM FOR THE CH3C HELICOPTER. ON 17 APRIL 1964 TO PERMIT AERIAL RECOVERY OF HIGH VALUE HARDWARE SUCH AS ROCKET BOOSTERS AND CAMERA CASSETTES ON THE NATIONAL MISSILE RANGES. IT WILL PREVENT LOSS OR DAMAGE TO EQUIPMENT DUE TO HARD IMPACT LANDINGS OR WATER IMMERSION.

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TO EFFECTIVELY EMPLOY THE CH3C ON LONG RANGE MISSIONS AND TO INSURE ACCURATE NAVIGATION OVER REMOTE LAND MASSES AND AT SEA, AN ADEQUATE LONG RANGE NAVIGATION SYSTEM IS REQUIRED. CONSEQUENTLY, A CLASS V MODIFICATION FOR INSTALLATION OF LORAN "C" AN/ARN 78 RADIO NAVIGATION EQUIPMENT WAS SUBMITTED ON 4 JANUARY 1965.

IN THE AREA OF LOCATION DEVICES WE SUBMITTED A QOR FOR A SOUND FIXING AND RANGING (SOFAR) OCEAN CRASH LOCATOR SYSTEM ON 13 JAN 1964. THIS LOCATING SYSTEM IS PRESENTLY UTILIZED IN THE MISSILE IMPACT LOCATION SYSTEM (MILS) TO PINPOINT MISSILE IMPACT AREAS ON THE NATIONAL MISSILE RANGES. DESPITE THE FACT THAT SOFAR CHARGES ARE CARRIED ABOARD USAF, NAVY, AND FAA AIRCRAFT OPERATING FROM HAWAII, THE POTENTIAL OF THIS LOCATING DEVICE HAS NOT BEEN EXPLOITED OR FULLY EXAMINED.

4. ADDITIONAL QUALITATIVE OPERATIONAL REQUIREMENTS AND REQUESTS FOR MODIFICATIONS TO EXISTING EQUIPMENT ARE CONTAINED WITHIN THE STUDY. ALL ARE THOROUGHLY JUSTIFIED ON THE BASIS OF INCREASED MISSION EFFECTIVENESS.

#### SECTION VII - BRIEFING PAPER

DURING THE SUCCESSFUL GEMINI MISSION ON 23 MARCH, AIR RESCUE SERVICE PROVIDED RESCUE COVERAGE FROM LAUNCH

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TO FINAL RECOVERY, WITH ONE EXCEPTION. WE HAD FOUR CH3C'S COVERING THE PAD AT CAPE KENNEDY IN CASE OF PAD ABORT, OR EJECTION OF THE ASTRONAUTS BELOW 13,500 FEET. BETWEEN FLORIDA AND AFRICA, OUR HC-54'S AND HC-97'S COVERED THE LAUNCH ABORT AREA. IN SOUTH AMERICA, AFRICA, THE INDIAN OCEAN, AUSTRALIA, AND THE SOUTH PACIFIC, RESCUE AIRCRAFT STOOD BY FOR A CONTINGENCY LANDING WITH PARARESCUE PERSONNEL ABOARD TO SECURE THE COMMAND MODULE AND TO PROVIDE ASSISTANCE AND MEDICAL AID, IF NECESSARY. IN THE PLANNED LANDING AREA, AN ADDITIONAL FOUR AIRCRAFT WERE AVAILABLE IN CASE OF OVERSHOOT OR UNDERSHOOT FOR A TOTAL OF 37 FIXED-WING AND 4 HELICOPTERS INVOLVED.

ONE OF OUR HC-54'S FOUND THE SPACECRAFT AND PARACHUTED PARARESCUE PERSONNEL TO PROVIDE CAPSULE FLOTATION AND MEDICAL AID. IF WE'D HAD HEAVY LIFT HELICOPTERS AT GRAND TURK ISLAND, THE CARRIER "INTREPID" COULD HAVE BEEN ENGAGED IN ITS NORMAL FUNCTIONS AND ARS COULD HAVE RETRIEVED THE ASTRONAUTS AND THE CAPSULE.

BUT THIS IS NOT THE EXCEPTION OR GAP IN COVERAGE THAT WAS SO OBVIOUS. ALL FACETS OF THE MISSION WERE COVERED EXCEPT FOR SPACE ITSELF.

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IF ONE OF THE MAJOR SUB-SYSTEMS OF THE GEMINI CAPSULE HAD FAILED, THUS PREVENTING RE-ENTRY, THE NATION WOULD HAVE HAD A STEP BY STEP TELEVISION AND RADIO DESCRIPTION OF HOW THE UNINJURED AND UNHARMED ASTRONAUTS WERE DYING WITHOUT HOPE OF RESCUE. WHEN THE PUBLIC REALIZED THAT NO ACTION WHATSOEVER COULD BE TAKEN TO ATTEMPT RESCUE, THE PRESSURES ON THE ADMINISTRATION WOULD, AT A MINIMUM, RESULT IN A REAPPRAISAL OF SPACE GOALS: OR AN INDEFINITE DELAY, REORGANIZATION, OR POSSIBLY CANCELLATION, OF PLANNED SPACE PROGRAMS. IN EARLY MERCURY SHOTS, A FAILURE MIGHT HAVE BEEN ACCEPTED. BUT AS OF TODAY, A FAILURE WHICH WOULD RESULT IN MAROONING U. S. ASTRONAUTS IN SPACE, WOULD REPRESENT A NATIONAL DELINQUENCY WHICH COULD PRODUCE UNPLEASANT REACTION, NOT ONLY BY THE U. S. PUBLIC, BUT BY OUR ALLIES AND OTHER UNCOMMITTED COUNTRIES WHO MIGHT LOOK TO THE RUSSIANS FOR TECHNOLOGICAL LEADERSHIP AS A RESULT OF SUCH A BLATANT FAILURE. SUCH AN EVENT COULD MARK A TURNING POINT IN HISTORY, OF UNFORESEEABLE DURATION AND IMPACT.

WE, AS A NATION, MUST ASK OURSELVES THE QUESTION -  
"DO WE REALLY BELIEVE THAT OUR NATIONAL ETHICS, TRADITIONS,

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AND HUMANITARIAN VALUES END AT THE EDGE OF SPACE?" IF THE ANSWER IS YES, WE HAVE NO BUSINESS IN SPACE AT ALL. IF THE ANSWER IS "NO, THEN THESE VALUES REMAIN PART AND PARCEL OF THE AMERICAN SYSTEM, AND WE'D BETTER GET ON WITH THE JOB TO DEFINE AND BUILD A SPACE RESCUE SYSTEM. WHEN THIS DONE, WE CAN PRACTICE THESE BELIEFS, INSTEAD OF FINDING OURSELVES IN THE SAME FIX WE WERE IN WHEN THE KOREAN WAR AND THE VIETNAM STRUGGLE STARTED, THAT IS, WITHOUT A RESCUE CAPABILITY ADEQUATE TO MEET THE REQUIREMENT.

FULLY REALIZING THAT WHAT HAS BEEN SAID IS MORE OR LESS OF AN EMOTIONAL APPROACH TO A PROBLEM, WHICH DOESN'T HAVE MANY OF THE QUALITIES NECESSARY TO PENETRATE THE COST EFFECTIVENESS BARRIER, THERE ARE OTHER PRACTICAL ASPECTS OF A SPACE RESCUE SYSTEM WHICH CAN'T BE OVERLOOKED.

FIRST OF THESE, WE BELIEVE, IS THE REQUIREMENT TO PHYSICALLY EXAMINE THE SPACECRAFT IN SPACE IF AN EMERGENCY OR FAILURE OCCURS RESULTING IN DISASTER. THE REASONS FOR FAILURE MUST BE PINPOINTED SO THAT SUBSEQUENT MANNED PROGRAMS ARE NOT JEOPARDIZED. IN OUR OWN AVIATION REALM, WE SPEND THOUSANDS OF MANHOURS PIECING TOGETHER CRASHED

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AIRCRAFT FOR IDENTICAL REASONS. THE ONLY SURE WAY TO FIND OUT WHAT HAPPENED IS TO GAIN DIRECT ACCESS TO WHATEVER IS LEFT - CONJECTURE CAN'T PROVIDE A POSITIVE FIX.

SECOND, A RAPID RESPONSE FOR RESCUE MAY ALSO PROVIDE A RAPID RESPONSE FOR REPAIR. THIS COULD MEAN REPLACEMENT OF A BLACK BOX OR THE REPAIR OF AN OXYGEN LEAK. MANY DIFFICULTIES COULD OCCUR BEYOND THE CAPABILITY OF THE PRIMARY CREW TO REPAIR, BUT WITHIN THE CAPABILITIES OF AN AUXILIARY CREW EQUIPPED WITH REPLACEMENT COMPONENTS FOR MALFUNCTIONING SUB-SYSTEMS. REPAIR IN THIS SENSE IS A MEANS OF RESCUE SINCE REPAIR WOULD PERMIT THE CREW TO COMPLETE THE MISSION AND BE RECOVERED IN THE NORMAL MANNER.

THIRD, EQUIPPING EACH SPACE VEHICLE WITH AN ESCAPE MODULE WOULD BE PROHIBITIVELY COSTLY IN TERMS OF THE ADDITIONAL BOOST REQUIRED FOR EACH SPACECRAFT AND THE REDUNDANCY REQUIRED. FURTHER, ESCAPE AND REENTRY BY AUXILIARY MODULE WOULD MERELY REMOVE THE CREW FROM ONE HOSTILE ENVIRONMENT INTO ANOTHER - THAT IS, INTO THE OCEAN, JUNGLES, OR MOUNTAINS OR, IN THE CASE OF A POLAR ORBIT, INTO THE ARCTIC, ANTARCTIC, OR ASIAN COMMUNIST LAND MASSES.

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FOURTH, THE CAPABILITY TO INTERCEPT, IDENTIFY, OR GAIN ACCESS TO SPACE VEHICLES, COOPERATIVE, PASSIVE, OR UNCOOPERATIVE, WILL BE A VALID MILITARY REQUIREMENT IN THE SPACE AGE. THE TECHNIQUES DEVELOPED AND EMPLOYED FOR THE SPACE RESCUE ROLE MAY BE OF FAR GREATER IMPORTANCE THAN THE PURE RESCUE FUNCTION. DEVELOPING THIS CAPABILITY WITHIN THE CONNOTATION OF HUMANITARIAN RESCUE APPEARS TO BE A MOST ACCEPTABLE METHOD IN TERMS OF IMPACT ON NATIONAL AND WORLD OPINION.

ONCE AGAIN RESCUE IS TRAILING BEHIND SYSTEM DEVELOPMENT. APPARENTLY THIS IS BASED ON EXTREME CONFIDENCE IN QUALITY CONTROL OF EACH ELEMENT OF THE MANNED SPACE SYSTEMS. THIS LEADS TO THE UNSPOKEN BELIEF THAT IT IS VIRTUALLY IMPOSSIBLE FOR A MALFUNCTION TO OCCUR WHICH COULD MAROON MAN IN SPACE. THIS SEEMS TO BE A RATHER CURIOUS VIEWPOINT WHEN WE CONSIDER THAT THE SPACE INDUSTRY IS ESSENTIALLY AN ARM OF THE AVIATION INDUSTRY, WHOSE PRODUCT FAILURES KEEP AIR RESCUE SERVICE IN BUSINESS.

IT MAY BE TOO LATE RIGHT NOW TO DEVELOP A SYSTEM IN TIME TO PREVENT THE LOSS OF MEN IN SPACE. WE BELIEVE THAT IMMEDIATE ACTIONS MUST BE TAKEN TO DEFINE AND PRODUCE A

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RESCUE SYSTEM WHICH WILL MEET THE RESCUE REQUIREMENTS OF THE SPACE AGE. TO THIS END, WE SEEK YOUR ACTIVE ASSISTANCE IN GETTING THIS PROGRAM OFF THE GROUND.

#### SECTION VIII

WE'VE DISCUSSED SYSTEMS AND SUB-SYSTEMS, NOW LET'S TALK A LITTLE BIT ABOUT ORGANIZATION AND MANPOWER. WITHIN THE PAST TWO MONTHS, THE MATS STAFF WAS BRIEFED ON THE PROPOSED REORGANIZATION OF AIR RESCUE SERVICE SO WE'LL MERELY HIT THE HIGHLIGHTS OF THE BRIEFING. ESSENTIALLY, THE PROPOSAL IS TO ESTABLISH <sup>Three</sup> ~~THESE~~ RESCUE WINGS SUBORDINATE TO ARS HEADQUARTERS TO HANDLE

SLIDE - 3 WING ORGANIZATION & JSARC'S DAY-TO-DAY OPERATIONS. OVERALL PLANNING AND OPERATIONAL CONTROL OF THE RESCUE FORCES WILL REMAIN WITH THE HEADQUARTERS THUS PERMITTING CENTRALIZED CONTROL AND DECENTRALIZED EXECUTION. WE BELIEVE THIS ORGANIZATIONAL STRUCTURE WILL PROVIDE THE FLEXIBILITY NECESSARY TO MEET, OR ADAPT TO, EXISTING AND CHANGING USAF AND DOD RESCUE AND RECOVERY REQUIREMENTS FOR THE NEXT DECADE. WE HOPE HERE THE THREE WING STRUCTURES IN BEING BY THE THIRD QUARTER

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SLIDE - MANPOWER

THE MANPOWER REQUIRED TO SUPERVISE, MAINTAIN, AND CREW THE AIRCRAFT WHICH WE HAVE DISCUSSED TODAY ARE REFLECTED ON THE NEXT CHART. FROM OUR PRESENT AUTHORIZATIONS FOR 3458 SPACES, THE FORCE BUILDS UP AS THE AIRCRAFT ARE PHASED INTO THE SYSTEM, UNTIL ALL AIRCRAFT ARE ON HAND IN THE FOURTH QUARTER OF FISCAL 68. THIS INVOLVES A GRADUAL BUILDUP OF MANPOWER RESOURCES FOR AN ADDITIVE REQUIREMENT OF 2436 AT THE COMPLETION OF THE FORCE BUILDUP.

SECTION IX - ADVANCED CONCEPTS

THE PERIOD WE'VE BEEN EMPHASIZING IS REALLY WITHIN THE NEXT THREE YEARS BUT WE MUST LOOK BEYOND THAT TIME SINCE CONCURRENT DEVELOPMENT OF AIRCRAFT TO KEEP PACE WITH OUR USER'S REQUIREMENTS IS A MUST. PAST FRAGMENTED EFFORTS TO GET AN OPERATIONAL VTOL OR V/STOL RESCUE/RECOVERY AIRCRAFT OF PRACTICAL VALUE INTO THE INVENTORY HAVE BEEN EMBROILED IN MORE CONFUSED EFFORT AND PARTIAL RESULTS THAN CAN BE ENUMERATED. DOLLARS HAVE BEEN EXPENDED ON EVERYTHING FROM GEMS TO JETS. THAT IS FROM GROUND EFFECT MACHINES TO LIFT ENGINE TYPE V/STOL AIRCRAFT .

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WE CERTAINLY CAN'T GO INTO GREAT DETAIL IN STUDYING OR DISCUSSING SUCH A BROAD SPECTRUM OF V/STOL POSSIBILITIES AND MUST THEREFORE WEED OUT THE LESS PROMISING CONFIGURATION AND CONCENTRATE MORE THOROUGHLY ON THOSE WHICH GIVE REAL PROMISE OF FUTURE APPLICATION IN THE GLOBAL AIR RECOVERY FORCE. ONE CENTRAL CRITERIA IS SET. THAT IS THE AIRCRAFT MUST BE ABLE TO RESCUE PEOPLE AND BE ADAPTABLE TO THE RECOVERY OF AEROSPACE HARDWARE FROM ANY PLACE AT ANY TIME. THIS MEANS FROM UNPREPARED AREAS, AND IT MEANS LOW, 15 PSF OR LESS, DOWNWASH VELOCITIES. WE VISUALIZE ONE TYPE VEHICLE, CONVERTIBLE AND EASILY ADAPTABLE TO OUR COMPLETE RECOVERY MISSION. THE RESEARCH WORK THAT HAS BEEN DONE BY THE MILITARY AND INDUSTRY OVER THE PAST SEVERAL YEARS IS PROVIDING MANY MORE TECHNICAL AND ECONOMIC OPTIONS IN V/STOL THAN HERETOFORE, AND CONSEQUENTLY, A GREATER DIVERSITY OF TASKS CAN BE FORESEEN FOR V/STOL AIRCRAFT FOR THE FORESEEABLE FUTURE. WE EMPHASIZE THAT THIS GROWING DIVERSITY OF OPTIONS AND TASKS MAKES IT MUCH MORE URGENT THAN EVER, THAT AIRCRAFT SYSTEMS CHARACTERISTICS BE MATCHED PRECISELY AND CAREFULLY TO OPERATIONAL REQUIREMENTS. WE BELIEVE WE CAN CLEARLY DEFINE OUR REQUIREMENTS.

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ADVANCED RESCUE AIRCRAFT CONCEPTS

THE GROUND RULES WE'VE ADOPTED IN OUR ADVANCED CONCEPTS IS THAT AN INCREASE IN CAPABILITY MUST ENTAIL NO INCREASE IN COMPLEXITY THAT WOULD AFFECT COST, PRODUCIBILITY, MAINTENANCE, OR RELIABILITY OF THE SYSTEM. RECOMMENDED TO MEET OUR FORESEEABLE RESCUE/RECOVERY MISSION REQUIREMENTS.

WE MIGHT FIRST TAKE A LOOK AT THE SPECTRUM OF V/STOL RELATED TO SPEED SHOWN IN FIGURE #1. HERE WE HAVE ARRANGED V/STOL TYPES FROM LEFT TO RIGHT IN INCREASING ORDER OF SPEED. THE PURE ROTOR TYPES ARE AT THE LOW SPEED END, THE PROPELLER LIFT TYPES FALL IN THE MIDDLE, AND THE JET-LIFT TYPES OCCUR, AS WOULD BE EXPECTED, AT THE HIGH SPEED END. THE RESULT, HOWEVER, IS NOT AS SIMPLE AS IT MAY APPEAR. FOR EXAMPLE, IT IS POSSIBLE TO EXTEND THE CAPABILITY OF THE ROTOR TYPES BEYOND THE RANGE SHOWN, BY STOPPING THE ROTOR. YOU WILL ALSO NOTE THAT THE SPEED OF THE ROTOR TYPES CAN BE FURTHER AND GREATLY INCREASED IN AN AIRCRAFT WHICH PROVIDES FOR STOWING OR RETRACTING A STOPPED ROTOR. IN THIS CONCEPT, BOTH THE ROTOR-PROPULSION SYSTEM AND HIGH-SPEED CONVENTIONAL FLIGHT ARE ACHIEVED FROM JETS DIVERTED

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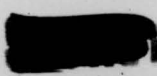
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AS NECESSARY. FIGURE #2 SHOWS AN EXAMPLE OF THE SYSTEM IN A .9 MACH HOT-CYCLE STOWED ROTOR. THIS AIRCRAFT INCORPORATES A ROTOR SMALL AND SIMPLE ENOUGH TO BE RETRACTED WITHIN THE FUSELAGE. THE GROSS WEIGHT FOR THE MACHINE AND THE WEIGHT EMPTY, ARE APPROXIMATELY THE SAME AS THOSE OF THE F-86 (17,500 LBS AND 11,000 LBS). THIS APPARENTLY IMPOSSIBLE FEAT IS ENTIRELY PRACTICAL SINCE THE ENTIRE PROPULSION SYSTEM AND ROTOR IN THIS AIRCRAFT WEIGH, TOGETHER, SOMEWHAT LESS THAN DID THE EARLY VENTAGE ENGINE OF THE F-86. ANALYSIS OF THIS SIMPLE SYSTEM, WHICH ELIMINATES COMPLEX TRANSMISSIONS, POWER SHAFTING, AND GEAR TRAINS, WAS FIRST MADE SOME 15 YEARS AGO. AT THAT TIME,, SATISFACTORY HIGH TEMPERATURE STRUCTURAL MATERIALS WERE NOT AVAILABLE, BUT SUCH IS NOT THE CASE TODAY. THE HUGHES OV-9A PURE HELICOPTER, EMPLOYING THE HOT-CYCLE PRINCIPLE, IS FLYING TODAY.

THE QUESTION MAY BE ASKED: WHY EMPLOY, OR CONSIDER, A ROTOR? INSTALLED THRUST-TO-WEIGHT RATIOS OF LIFE-ENGINES, EXCLUSIVE OF THE CRUISE PROPULSIVE SYSTEM, COULD BE TWICE THAT OF THE STOWED-ROTOR SYSTEM. THE ANSWER IS

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SIMPLY THAT, THE TACTICAL RESCUE MISSION (WHETHER FOR ASTRONAUT OR DOWNED COMBAT AIRCREW) REQUIRES EXTENDED HOVER, AND FLIGHT AND MANEUVER AT HELICOPTER SPEEDS. OF KEY SIGNIFICANCE, IS THAT THE MACHINE MUST OPERATE TO AND FROM COMPLETELY UNPREPARED SITES. NEITHER HIGH DOWN-WASH VELOCITIES NOR EXCESSIVE HOVER FUEL FLOW CAN BE TOLERATED. THE ROTOR SYSTEM GENERATES LOW DOWNWASH VELOCITIES AND PERMITS EXTENDED FLIGHT AT EVERY LOW SPEEDS WITHOUT APPRECIABLE INCREASE IN MISSION FUEL LOAD. RESULT? EXCELLENT OPERATIONAL FLEXIBILITY. WE BELIEVE THE CONCEPT HAS VERY PROMISING APPLICATION AS A HIGH-PERFORMANCE RESCUE-RETRIEVAL VEHICLE. IT COULD BE AIR-TO-AIR REFUELED FROM KC-135'S OR KC-130'S IN THE SAME MANNER AS TACTICAL FIGHTERS. IT COULD ACCOMPANY AIR STRIKES OR STAND STRIP ALERT AT ADVANCED UNPREPARED SITES, PERFORMING IMMEDIATE RESCUE OF DOWNED TACTICAL FIGHTER-BOMBER CREWS. STRIKES IN NORTH VIETNAM, EXEMPLIFY ITS APPLICATION. IT WOULD DENY THE ENEMY A PRIME SOURCE OF INTELLIGENCE DATA. ITS COVERT USE IS OBVIOUS.

REFERRING AGAIN TO FIGURE #2, WE MUST ELIMINATE THE TILT-WING AND/OR TILT-PROP ON AT LEAST TWO COUNTS. FIRST,

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THAT NEITHER BY THEIR VERY NATURE, WILL POSSESS THE OPERATIONAL FLEXIBILITY DEMANDED IN OUR MISSION WHICH REQUIRES THAT WE BE ABLE TO PERFORM THE RESCUE FROM ANY PLACE AT ANY TIME. THEY CANNOT OPERATE EFFECTIVELY NOR SAFELY FROM UNPREPARED SITES. SECONDLY, THEY ARE HIGHLY COMPLEX, AND BY THEIR VERY NATURE, WILL REMAIN SO. TILT-WINGS SUCH AS THE SC-142, HAVE ELEVEN TRANSMISSIONS AND ASSOCIATED DRIVE SHAFTING, SO THEY ARE COMPLETELY DEPENDENT UPON AUTOMATIC STABILIZATION DEVICES. THE RESULT? THE MAINTENANCE MAN-HOUR PER FLYING HOUR (MMHFH) RATIO IS EXCESSIVE. THE SC142 IS PREDICTED AT 86 MMHFH VERSUS 10.7 MMHFH FOR THE CH3C. ALTHOUGH DIRECT LINE TURBO FANS AND TURBO JETS ARE LESS COMPLEX, THEY PAY SEVERE PENALTIES IN FUEL-FLOW WHICH REDUCES HOVER TIME. THE DOWN-WASH PROBLEM IS NOT OVERCOME. IN FACT, SOME NEW PROBLEMS ARE INTRODUCED WITH THESE TYPES. BRIEFLY, ENOUGH HEAT (425°F) IS GENERATED TO MELT ASPHALT, COUPLED WITH UNACCEPTABLY HIGH DOWN-WASH VELOCITIES.

A SECOND PROMISING APPLICATION OF THE HOT-CYCLE IS THE ROTOR-WING SHOWN IN FIGURE #3. THE ROTOR-WING IS A NEW CONCEPT FOR A HIGH-SPEED VTOL AIRCRAFT THAT HAS THE

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HOVERING EFFICIENCY WITH LOW DOWN-WASH VELOCITIES OF A HELICOPTER, COUPLED WITH AN OUTSTANDING PAYLOAD-CARRYING ABILITY. THE ROTOR-WING IS A UNIQUE, DUAL-PURPOSE LIFTING DEVICE, THAT IS BASICALLY A HOT CYCLE, HIGH SOLIDITY ROTOR WITH AN UNUSUALLY LARGE HUB. IN ONE ELEMENT, IT COMBINES A TIP-JET POWERED ROTOR FOR VERTICAL AND LOW-SPEED FLIGHT THAT STOPS DURING FLIGHT TO BECOME A LOW-ASPECT RATIO FIXED WING FOR CRUISE. BY STOPPING THE ROTOR IN FORWARD FLIGHT, THE SPEED LIMITATIONS OF THE HELICOPTER ROTOR ARE REMOVED.

THE HOT-CYCLE PROPULSION SYSTEM THAT POWERS THIS VEHICLE IS CHARACTERIZED BY LIGHT WEIGHT AND SIMPLICITY FACTORS THAT PROMISE A PAYLOAD CAPABILITY FOR THE ROTOR-WING AIRCRAFT, MARKEDLY SUPERIOR TO OTHER HIGH-SPEED VTOL AIRCRAFT.

CONCLUSIONS:

FIRST, THE HOT-CYCLE JET PROPULSION ROTOR-WING SYSTEM INCREASES SUBSTANTIALLY THE RESCUE MISSION CAPABILITY. IT MEETS OUR CRITERIA WHICH DEMANDS NO INCREASE IN COMPLEXITY THAT WOULD AFFECT COST, PRODUCIBILITY, MAINTENANCE, OR RELIABILITY.

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SECOND, ALL ARS V/STOL'S MUST BE CAPABLE OF BEING AIR-TO-AIR REFUELED FROM STANDARD USAF TANKERS.

RECOMMENDATIONS:

FIRST, THAT SOR 210 BE AMENDED TO INCLUDE THE CRITERIA ESTABLISHED BY THE OPERATING COMMAND, I.E., MATS/ARS.

SECOND, THAT MATS REQUEST A FULL STATUS BRIEFING OF THE MACHINE NOW BEING CONSIDERED TO MEET THE ARS V/STOL REQUIREMENT.

THIRD, THAT A COMPUTER SIMULATOR ANALYSIS BE CONDUCTED PROMPTLY, TO EVALUATE THE HOT-CYCLE ROTOR-WING AND THE TILT-WING SYSTEMS TO DETERMINE THE VALIDITY OF CONTINUED EXPENDITURE OF FUNDS TOWARD DEVELOPMENT OF A V/STOL THAT WILL PRECLUDE ITS EMPLOYMENT IN THE FULL SPECTRUM OF THE RESCUE MISSION. WE RE-EMPHASIZE THAT GROWING DIVERSITY OF OPTIONS AND TASKS MAKES IT MUCH MORE URGENT THAN EVER, THAT V/STOL AIRCRAFT SYSTEMS CHARACTERISTICS BE MATCHED PRECISELY AND CAREFULLY TO OPERATIONAL REQUIREMENTS.

SECTION IX - BRIEFING

ATRAN: ANOTHER CONCEPT IN WHICH WE ARE INTERESTED IS ATRAN OR AUTOMATIC TERRAIN RECOGNITION AND NAVIGATION

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SELF-CONTAINED GUIDANCE SYSTEM USED IN THE MACE A MISSILE TO GUIDE ITSELF OVER A PRE-DETERMINED COURSE FROM LAUNCH TO TARGET. THE SYSTEM COMPARES AIRBORNE RADAR INFORMATION WITH PRE-PLOTTED VIDEO MAP INFORMATION STORED ON 35 MM FILM. CAPABLE OF OPERATION OVER LAND ONLY, THE SYSTEM IS ENGAGED OVER A KNOWN POINT AFTER WHICH THE AIRCRAFT IS FLOWN BY THE SYSTEM THROUGH THE AUTOMATIC PILOT TO THE PRE-PLOTTED DESTINATION ARRIVING WITH AN AVERAGE ERROR OF LESS THAN 300 FEET, REGARDLESS OF THE DISTANCE TRAVELED. ALTITUDE CORRECTIONS ARE PROVIDED BY THE FILM STRIP BY PROGRAMMING RADAR ALTITUDE CHECK POINTS ON THE FILM AS FREQUENTLY AS DESIRED. THIS SYSTEM, IN OUR HC-130'S OR CH-3C'S, WOULD PERMIT PENETRATIONS INTO HOSTILE TERRITORY AT NIGHT OR IN ACTUAL WEATHER CONDITIONS FLYING AT 500 FEET ABOVE THE GROUND WITH A MINIMUM CREW FATIGUE FACTOR. WE BELIEVE THAT SUCH EQUIPMENT COULD PROVIDE AN INHERENTLY SAFE INFILTRATION OR EXFILTRATION CAPABILITY NEVER BEFORE ENJOYED BY THE USAF.

CURIOUSLY ENOUGH, THIS SYSTEM WAS BEEN USED IN THE AIR FORCE FOR A NUMBER OF YEARS BUT USED ONLY IN THE MISSILES. PERHAPS THIS WAS BECAUSE OF THE SECURITY SURROUNDING THE MISSILE SYSTEMS, BUT A MAJOR POINT HERE

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IS THAT THE ENTIRE SYSTEM IS AIR FORCE OWNED AND NOT AVAILABLE TO THE OTHER SERVICES. OF PARTICULAR SIGNIFICANCE IS THE PROGRAMMED PHASE-OUT OF THE MACE A SYSTEM IN THE LATTER PART OF 1966. THIS WILL MAKE 88 SETS OF THE GUIDANCE SYSTEM AVAILABLE TO BE USED OR SCRAPPED.

WE HAVEN'T HAD AN OPPORTUNITY TO FULLY EXAMINE THE POSSIBILITIES OF USING ATRAN SYSTEM FOR COMBAT RESCUE OR FOR OTHER PURPOSES. MANY APPLICATIONS APPEAR FEASIBLE FOR PEACETIME USES SUCH AS NAVIGATION IN REMOTE AREAS, AUTOMATIC LETDOWNS AT REMOTE AIRFIELDS WITHOUT AN APPROACH AID, OR EVEN EMERGENCY LETDOWNS IF THE APPROACH AID BECOMES INOPERATIVE. IF WE DETERMINE DEFINITE APPLICATION TO THE AIR RESCUE MISSION, WE PLAN TO REQUEST AN ENGINEERING STUDY TO DETERMINE THE COSTS OF REMOVAL FROM THE MACE, REDESIGN, AND INSTALLATION IN THE HC-130H.

#### SECTION IX

IN ADDITION TO ADVANCED AIRCRAFT AND ATRAN, WE ARE ALSO LOOKING AT THE POSSIBILITIES OF DEVELOPING A SYSTEM, OR SYSTEMS, WHICH WILL DETECT PERSONS OR AIRCRAFT CONCEALED FROM VISUAL OBSERVATIONS, AND NOT EQUIPPED

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WITH BEACONRY. THIS MAY BE A FORM OF A LIGHT AMPLIFICATION SYSTEM, INFRA-RED APPLICATIONS OR MAGNETIC DEVICES.

WE ALSO FEEL THAT SATELLITE SYSTEMS MAY BE ADAPTED TO EMERGENCY AIRCRAFT OR PERSONNEL BEACONRY TO RECEIVE AND RELAY DISTRESS SIGNALS FIXING A LOCATION ON EARTH WITHIN REASONABLE SEARCH PARAMETERS. SATELLITES MAY ALSO BE EMPLOYED FOR RELAYING LOCATION AND IDENTIFICATION OF PERSONNEL DOWNED IN HOSTILE TERRITORY AND FOR PROVIDING A SECURE MEANS OF COMMUNICATING RECOVERY INFORMATION.

#### SUMMARY - BRIEFING

WE'VE COVERED A RATHER LARGE QUANTITY OF MATERIAL IN A RELATIVELY SHORT TIME, INCLUDING SOME PHILOSOPHIES AND CONCEPTS WHICH HAVE NOT BEEN PREVIOUSLY PRESENTED. RATHER THAN TO ATTEMPT A COMPLETE SUMMARY OF THE PRESENTATION, WE'D LIKE TO PRESENT AN OVERALL VIEW OF THE RESCUE AND RECOVERY MISSION AND FORCES VERSUS THE REQUIREMENTS.

#### SLIDE ON

FIRST, WE NEED A FIXED-WING FORCE TO MEET FORECAST RESCUE COVERAGE REQUIREMENTS FOR THE MANNED SPACE

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PROGRAMS. THIS IS PROGRAMMED AND THE REQUIREMENT  
WILL BE MET - BUT ONLY AT A COST OF DILUTING THE

*must*  
OVERLAY #1

CONVENTIONAL SAR FIXED-WING CAPABILITY TO AN INEFFECTIVE  
HANDFUL OF TIME-WORN AIRCRAFT. <sup>SECOND</sup> TO DO OUR JOB PROPERLY  
THE CONVENTIONAL SAR FORCES MUST BE UPDATED AND INCREASED  
IN NUMBERS. AS YOU CAN SEE, THESE FORCES ARE MUTUALLY  
SUPPORTING AND, IN FACT, ARE IDENTICAL IN CAPABILITY,  
WHICH WILL PROVIDE THE NECESSARY DEPTH IN FIXED-WING  
RESOURCES, ESSENTIAL TO MEET OUR GLOBAL RESPONSIBILITIES.

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OVERLAY #2

~~WE~~ ~~WILL~~ ~~BE~~ ~~THE~~ ~~BACKBONE~~ ~~OF~~ ~~OUR~~ ~~COMBAT~~ ~~RECOVERY~~ ~~FORCES~~ ~~BUT~~  
~~THEY~~ ~~ARE~~ ~~ALSO~~ ~~ESSENTIAL~~ ~~TO~~ ~~THE~~ ~~PEACETIME~~ ~~MISSION~~. ~~THESE~~  
AIRCRAFT ARE AS CLOSE AS WE CAN COME TO A ~~TIME~~ VI STOL  
CAPABILITY DURING THE PERIOD THEY ARE REQUIRED. THE  
INTERRELATIONSHIP WITH THE SPACE RECOVERY FORCES AND  
THE CONVENTIONAL SAR FORCES CAN, AND MUST, BE TIGHTENED  
BY AN AIR-TO-AIR REFUELING SYSTEM, WHICH WILL GIVE ARS  
A ~~TIME~~ GLOBAL RESCUE CAPABILITY FOR INJURED PERSONNEL

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OR GROUPS. THIS TEAM WILL PAY ITS WAY BY ELIMINATING THE REQUIREMENT FOR SUBSTANTIAL NUMBERS OF COMBAT SHIPS TIED UP IN SPACE RECOVERY PROGRAMS.

OVERLAY #3

THE FOURTH ELEMENT OF THE RESCUE FAMILY IS THE LOCAL BASE RESCUE HELICOPTER FORCES WHICH MORE THAN PAY FOR THEMSELVES EACH YEAR. THE INTERRELATIONSHIP STILL HOLDS WITH THE OTHER RESCUE FORCES BY PROVIDING A VERTICAL LIFT CAPABILITY TO SUPPLEMENT THE FIXED-WING FORCES, IF REQUIRED, AND A HIGH ALTITUDE CAPABILITY TO SUPPLEMENT THE LARGER HELICOPTERS AS THEY ARE DOING TODAY IN ETHIOPIA.

OVERLAY #4

EACH RESCUE ELEMENT HAS ITS JOB AND EACH CAN COMPLEMENT THE OTHER DEPENDING ON THE SITUATION. THESE CHARACTERISTICS WILL PERMIT US TO TAILOR A FORCE AS REQUIRED IN THE COMBAT SITUATION FROM RESCUE COVERAGE DURING TAKE OFF, ALONG THE ROUTES TO THE COMBAT AREA, PICKUP WITHIN THE COMBAT AREA EITHER SHORT RANGE OR LONG RANGE, AND DURING THE FINAL LANDING AT HOME BASE.

WE WANT TO REITERATE THAT RESCUE IS NOT A LUXURY BUT IS A FORCE WHICH TENDS TO PAY ITS WAY IN PEACETIME BY

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CONSERVING HUMAN AND MATERIAL RESOURCES. IN THE COMBAT SITUATION, WE NOT ONLY BALANCE OUR CHECKBOOK BUT GET AHEAD - NOT BY DESTROYING BUT BY SAVING. WE'RE GOING TO NEED A LOT OF HELP IN REACHING THE POSTURE WE BELIEVE NECESSARY TO BECOME A TRUE GLOBAL RESCUE ORGANIZATION. THERE ARE MANY DETAILS IN OUR PAPER WHICH HAVE NOT BEEN COVERED TODAY DUE TO LACK OF TIME. WE ARE LOOKING FORWARD TO YOUR COMMENTS AFTER REVIEW OF THE STUDY AND ARE ALSO SEEKING YOUR ACTIVE SUPPORT IN ATTAINING AND MAINTAINING A GLOBAL RESCUE CAPABILITY, IN PEACE AND IN WAR, IN THE SENSIBLE ATMOSPHERE AND SPACE.

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INTERVALS DECLASSIFIED ON DECEMBER  
31, 1973

AIR RESCUE SERVICE

"DEEP LOOK" BRIEFING (REVISED)

9 April 1965

Presented to Hq MATS  
by Col Brooks

PROJECT CORONA HARVEST

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SLIDE #1 - ON (ARS SHIELD)

PERHAPS ONE OF THE BEST POINTS OF DEPARTURE FOR A LOOK INTO THE FUTURE IS TO MAKE A BRIEF REVIEW OF THE PAST.

THE HISTORY OF THE AIR RESCUE SERVICE IS A SHORT ONE, BUT IT IS FULL OF INTEREST AND PROVIDES A NUMBER OF LESSONS WHICH CAN BE RELATED TO THE FUTURE. ONE OF THE OBSERVATIONS WHICH CLEARLY EMERGES IS THE FACT THAT RESCUE GETS A LOT OF ATTENTION WHEN THE SHOOTING STARTS, BUT IS REGARDED AS MORE OF A LUXURY WHEN THE COMBAT SITUATION EASES DOWN. IF YOU EXAMINE THE FORCES SPECIFICALLY EMPLOYED FOR RESCUE IN WORLD WAR II WITH THOSE THAT EXISTED IN THE LATE 40'S, YOU RECEIVE A CLEAR INDICATION OF WHAT HAPPENED. OF COURSE, THIS WAS NOT UNIQUE TO ARS - THE DRASTIC CUTBACKS OCCURRED THROUGHOUT THE MILITARY SERVICES. SUBSEQUENTLY, HIGH LEVEL DECISIONS WERE MADE THAT OUR MILITARY POSTURE WOULD BE BASED ON A POLICY OF STRATEGIC DETERRENCE AND MASSIVE RETALIATION. THIS POLICY ELIMINATED THE REQUIREMENT FOR COMBAT RESCUE UNITS, AND IN ADDITION, OVERRIDING PRIORITY HAD TO BE GIVEN TO THE STRATEGIC FORCES. AS A RESULT, JUST PRIOR TO KOREA, RESCUE HAD ONLY A HANDFUL

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OF ASSORTED AIRCRAFT. 7 HOWEVER, WITHIN A MATTER  
OF MONTHS, THERE WERE 50 SQDNS AND 12 GROUPS DEPLOYED  
ON A GLOBAL BASIS.

WHEN THE SHOOTING STOPPED, RESCUE WAS ONCE  
AGAIN DRASTICALLY REDUCED IN SIZE - DOWN TO 12  
SQUADRONS WHICH WE HAVE TODAY. WHEN THE CONFLICT  
IN VIETNAM STARTED, THE STORY WAS THE SAME - THERE  
WAS NO COMBAT CAPABILITY IN THE RESCUE SERVICE.  
TWO YEARS AFTER THE AIR FORCE HAD BEEN OPERATING IN  
VIETNAM, AND AT A COST OF 2 1/4 MILLION DOLLARS, WE  
WERE ABLE TO MUSTER A FORCE OF EXACTLY 6 SMALL  
HELICOPTERS - HASTILY EQUIPPED WITH SUFFICIENT ARMOR  
TO PERMIT OUR CREWS TO OPERATE IN A LIMITED COMBAT  
ENVIRONMENT. THIS LITTLE GROUP IS DOING A  
MAGNIFICENT JOB, AND THE RECENT ACHIEVEMENTS OF  
OUR AIRCREWS HAS BEEN MOST IMPRESSIVE, BUT IT IS  
CERTAINLY AN AUSTERE EFFORT BY ANY STANDARD.

THE PROPOSAL TO PUT 16 LONG-RANGE COMBAT  
CONFIGURED CH3C'S IN SOUTHEAST ASIA IS A NATURAL  
FOLLOW-ON. BUT IT IS A MATTER OF CONCERN THAT  
COMBAT RESCUE FORCES - ONCE AGAIN - HAVE TO BE  
BUILT FROM SCRATCH.

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IN TERMS OF / WORLD WAR II AND KOREA, WE HAD  
TIME. NOW THE SITUATION IS DIFFERENT. THE STRATEGIC  
AND TACTICAL FORCES ARE KEPT IN A CONTINUOUS STATE OF  
READINESS, AND IT FOLLOWS, ON THE BASIS OF SIMPLE  
LOGIC, THAT RESCUE SERVICE - TO BE EFFECTIVE AND  
RESPONSIVE - MUST HAVE AN IN-BEING COMBAT AIRCREW  
RECOVERY CAPABILITY NOW AND IN THE FORESEEABLE FUTURE.

SLIDE # 2 - ON (TOPICS)

AT THIS POINT, LET US REVIEW OUR MISSION AS  
IT LOOKS TODAY. IT MAY BE CONSIDERED IN 4 BROAD CATEGORIES:

SLIDE # 3 - ON *MISSION*

*OVERLAY #1*  
FIRST, CONVENTIONAL RESCUE, INCLUDING BASE RESCUE.

SECOND, SURFACE RESCUE FOR THE SPACE PROGRAMS,  
ESPECIALLY GEMINI, APOLLO AND MOL DURING THE  
INTERMEDIATE TIME PERIOD.

*OVERLAY #2*  
THIRD, TACTICAL OR COMBAT RECOVERY OPERATIONS,  
SUCH AS THOSE NOW BEING CONDUCTED ON A DAILY BASIS IN  
SOUTHEAST ASIA, AND

*OVERLAY #3*  
FOURTH, AEROSPACE HARDWARE RECOVERY.

SLIDE # 3 - 1st Line - ON

CONVENTIONAL RESCUE IS THE DAY-TO-DAY  
BUSINESS OF PROVIDING RESCUE COVERAGE FOR USAF

OPERATIONS, INCLUDING RESCUE

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OPERATIONS, INCLUDING RESCUE/ ORBITS FOR DEPLOYING  
TACTICAL AIRCRAFT, AIR DEFENSE COMMAND EXERCISES,  
HIGH DENSITY TROOP AIRLIFTS, AND RECONNAISSANCE  
AIRCRAFT OPERATING IN THE PERIPHERY OF COMMUNIST  
COUNTRIES. FIXED-WING AIRCRAFT ARE ON SCRAMBLE  
ALERT STATUS ON THE AERIAL LOC'S FOR INTERCEPT AND  
ESCORT OF DISTRESSED AIRCRAFT, OR IF THE WORST  
HAPPENS, TO SEARCH FOR THE DOWNED PLANE AND  
PROVIDE ASSISTANCE. LIKEWISE, OUR LOCAL BASE  
RESCUE HELICOPTERS ARE ON ALERT AT 70 BASES TO PROVIDE  
CRASH FIRE SUPPRESSION AND RESCUE ON OR NEAR THE  
AIRFIELDS.

THE CONVENTIONAL RESCUE MISSION WILL  
CONTINUE AS LONG INTO THE FUTURE AS WE CAN SEE. SOME  
POSSIBLE EXPANSIONS TO THE LOCAL BASE RESCUE MISSION  
COULD OCCUR IF, FOR EXAMPLE, IT BECAME NECESSARY TO  
DISPERSE OUR TACTICAL FORCES ON A WIDESPREAD BASIS.

SLIDE # 3 - 2ND LINE ON

PROVIDING RESCUE AND RECOVERY FOR THE MANNED  
SPACE PROGRAMS IS A TASK WHICH IS GROWING IN DIRECT

PROPORTION TO THE

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PROPORTION TO THE / ACCELERATION OF OUR EXPLORATION  
OF SPACE. OUR TASK IS TO PROVIDE SURFACE RESCUE  
COVERAGE ~~FROM~~ <sup>AT</sup> THE LAUNCH PAD, AROUND THE GLOBE, AND  
IN THE FINAL LANDING AREA. AT THE PRESENT TIME OUR  
PRIMARY TASK IS TO RESCUE OR ASSIST THE CREW, BUT A  
LOGICAL EXTENSION OF THIS MISSION IS TO ALSO RECOVER  
THE SPACECRAFT. FROM A DOLLAR STANDPOINT, WE CAN  
EQUIP AND PROVIDE THE ENTIRE SURFACE RECOVERY FORCE  
AT FAR LESS COST TO THE GOVERNMENT THAN BY THE MEANS  
PRESENTLY USED - AND WE CAN PROVIDE IT AT LEAST FIVE  
TIMES AS FAST WITH LESS THAN ONE HALF THE PERSONNEL  
ABOARD A SINGLE AIRCRAFT CARRIER. WE'RE LEARNING  
MORE ABOUT THIS BUSINESS EVERYDAY AND FIND IT A  
DEMANDING TASK TO DEPLOY AND CONTROL RECOVERY  
FORCES AROUND THE GLOBE FROM 40°N TO 40°S. ONE  
MAXIM HAS BECOME CLEARLY EVIDENT / TO BE EFFECTIVE,  
- THESE FORCES MUST BE CENTRALLY CONTROLLED.

WE SEE AN EXPANSION OF THE SPACE RECOVERY  
PROGRAM IN THE NEAR FUTURE, NOT ONLY IN FREQUENCY  
BUT ALSO IN THE DURATION OF MISSIONS. WE MUST ALSO LOOK  
BEYOND OUR 40°N AND 40°S BOUNDARIES TO THE TIME PERIOD  
WHEN NUMEROUS ORBITS WILL TRACK OVER ALL PARTS OF THE  
EARTH. SAC HAS INDICATED THAT OPERATIONAL MANNED  
SYSTEMS MAY BE

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SYSTEMS MAY BE EMPLOYED IN POLAR ORBITS AND HAS  
RECOMMENDED THAT WE STUDY THE REQUIREMENT TO  
PROVIDE COVERAGE FOR THIS SYSTEM.

SLIDE # 3 - 3D LINE ON

AS PREVIOUSLY MENTIONED, OUR CAPABILITY TO COVER  
TACTICAL COMBAT FORCES IS PRACTICALLY NON-EXISTENT.  
IN EUCOM AND PACOM ALONE, ARS IS TASKED IN 88 SEPARATE  
CONTINGENCY PLANS, MOST OF WHICH REQUIRE A COMBAT  
CAPABLE RESCUE FORCE. MANY COMMANDERS AND STAFF  
OFFICERS MAY STILL HAVE MEMORIES OF RESCUE IN KOREA IN  
THE BACKS OF THEIR MINDS AND SUBCONSCIOUSLY BELIEVE  
ARS CAN RAPIDLY MUSTER A COMBAT-EQUIPPED RESCUE FORCE  
TO DO THE JOB IN THE SAME MANNER. UNFORTUNATELY, WHEN  
THE TACTICAL FORCES WERE BUILT UP A FEW YEARS BACK TO  
COPE WITH THE LIMITED WAR PROBLEMS, RESCUE FORCES  
WERE NOT SIMILARLY DEVELOPED. AS LONG AS WE'RE  
GOING TO FIGHT WARS, IT IS LOGICAL TO ASSUME WE'RE  
GOING TO NEED COMBAT RESCUE FORCES IN BEING.

SLIDE # 3 - 4TH LINE ON

THE MISSION OF RECOVERING AEROSPACE HARDWARE HAS  
PROBABLY THE GREATEST POTENTIAL FOR EXPANSION OF ANY  
OF OUR ASSIGNED TASKS. WE'RE JUST SCRATCHING THE  
SURFACE ON REQUIREMENTS

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SURFACE ON REQUIREMENTS / AND VARIOUS AGENCIES ARE GRADUALLY BECOMING AWARE THAT ARS IS DESIGNATED AS THE USAF RECOVERY AGENCY. HOWEVER, IT SEEMS THAT MANY COMMANDS ARE EITHER NOT AWARE THAT HARDWARE RECOVERY IS AN ARS JOB OR FEEL THAT WE SHOULDN'T KNOW ABOUT IT BECAUSE OF THE SECURITY CLASSIFICATION. THIS RESULTS IN A DUPLICATION OF EQUIPMENT, AND OF MANPOWER, AND INEFFECTIVE UTILIZATION OF AIRCRAFT WHICH COULD BE USED FOR OTHER RESCUE PURPOSES WHEN NOT INVOLVED IN HARDWARE RECOVERY. SAC, ADC AND AFSC, EACH HAVE HARDWARE RECOVERY AIRCRAFT FOR THAT SOLE PURPOSE, SOME OF WHICH WERE DIVERTED FROM ARS AND GIVEN TO THE COMMAND TO DO THE JOB FOR WHICH WE ARE RESPONSIBLE.

WE SEE HARDWARE RECOVERY TASKS COMING UP WITH INCREASING FREQUENCY, WITH WEIGHTS RANGING FROM 150 LBS TO 10,000 LBS. SOME ARE AIR-TO-AIR RETRIEVALS AND SOME ARE RECOVERED FROM THE SURFACE. SOME ARE AIR FORCE PACKAGES AND SOME BELONG TO NASA AND OTHER AGENCIES. THE MAJOR POINT HERE IS THAT ONE AGENCY CAN DO THE JOB MORE ECONOMICALLY, PARTICULARLY SINCE THESE RECOVERIES ARE PREPLANNED, THUS PERMITTING THE AIRCRAFT AND CREWS TO BE USED FOR ANOTHER TASK WHEN NOT RECOVERING HARDWARE.

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RESOURCE-WISE, OUR FIXED WING AIRCRAFT AND CERTAIN OF OUR HELICOPTERS ARE BEING USED INTERCHANGEABLY, THAT IS, THEY ARE NOT TIED TO ONE SPECIFIC TYPE OF MISSION. THE HU-16, FOR EXAMPLE, CAN BE AND IS USED IN ALL FOUR BROAD CATEGORIES OF MISSIONS (EXCEPT LBR). THE CH3C CAN BE USED THE SAME WAY, AND THE C-54 AND C-97 ARE EMPLOYED IN BOTH CONVENTIONAL AND SPACE OPERATIONS AND CAN BE USED, UNDER CERTAIN CIRCUMSTANCES, IN COMBAT OPERATIONS. THIS PROVIDES THE BASIC FLEXIBILITY FOR RESCUE OPERATIONS ON A GLOBAL SCALE. BUT WE ARE THINLY SPREAD BY ANY REASONABLE STANDARDS.

SLIDE #3 - OFF

SLIDE #4 - ON *ARS World Wide Deployment*

AIR RESCUE SERVICE HAS 91 UNITS AT 87 LOCATIONS IN THE UNITED STATES AND 21 FOREIGN COUNTRIES. WITH THE RADIUS OF ACTION OF PRESENTLY ASSIGNED AIRCRAFT, WE CAN PROVIDE RAPID RESCUE COVERAGE FROM HOME BASES TO THE AREAS IN PROXIMITY TO THEIR LOCATION. FOR PREPLANNED MISSIONS, WE CAN PROVIDE RESCUE COVERAGE WHERE AND WHEN NEEDED, BUT IT IS NECESSARY TO DIGRESS A MOMENT TO DISCUSS THE TERM "RESCUE".

IN PLAIN LANGUAGE, IT MEANS TO PHYSICALLY PICK SOMEBODY UP AND DELIVER THEM TO SAFETY. THIS

MEANS ANY PERSON

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MEANS ANY PERSON/ INCLUDING THOSE INCAPABLE OF HELPING  
THEMSELVES. WE CAN DO THIS ONLY WITH THE HELICOPTERS  
AND, TO A LIMITED DEGREE, WITH THE HU-16.

SLIDE#4 - OFF

SLIDE #5 - ON SA-16

WE SAY TO A LIMITED DEGREE, BECAUSE THE HU-16  
CAN LAND ON THE WATER (NORMALLY DURING DAYLIGHT ONLY)  
UNDER RELATIVELY SMOOTH SEA CONDITIONS. WE ARE VERY  
PLEASED WITH THE SAVES WHICH HAVE BEEN MADE RECENTLY OFF  
VIETNAM USING THE HU-16, BUT WE HAVE TO ACKNOWLEDGE THAT  
CONDITIONS WERE JUST RIGHT. FOR EXAMPLE, DURING 1963  
AND 1964, HU-16'S MADE ONLY 7 OPERATIONAL WATER LANDINGS  
SAVING A TOTAL OF 5 PERSONNEL AND NONE OF THESE WERE USAF  
CREWMEMBERS. THE HC-54 AND THE HC-97, OF COURSE, CAN'T  
EVEN DO THIS MUCH. THEIR CAPABILITY LIES IN FINDING THE  
INDIVIDUAL AND DROPPING EITHER PARARESCUE TEAMS OR  
SURVIVAL EQUIPMENT, THEN ARRANGING FOR SOME OTHER  
VEHICLE TO ACTUALLY RESCUE THEM. SO, IN REALITY, THESE  
AIRCRAFT ARE RENDERING AID OR ASSISTANCE - NOT RESCUE.  
THIS HAS BEEN AN ACCEPTABLE METHOD OF PROVIDING ASSISTANCE,  
PRIMARILY BECAUSE THERE WASN'T ANYTHING BETTER, <sup>but</sup> THIS IS  
WHERE THE CHALLENGE LIES.

SLIDE #5 - OFF

SLIDE #6 - ON (BASIC) ARS Sgn LOCATION

IN RESPECT TO

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IN RESPECT TO OUR UNIT LOCATIONS, WE HAVE FOUND THAT THE EXISTING LOCATIONS HAVE SERVED US WELL IN THE AIR AGE. HOWEVER, WITH THE GRADUAL BLENDING OF AERONAUTICS AND ASTRONAUTICS, IT HAS BECOME APPARENT THAT WE MUST EXTEND OUR RESCUE/RECOVERY RESOURCES TO COVER SPACE PROJECTS AS WELL AS AIR OPERATIONS. WE FEEL THAT WE CAN DO THIS ON A DEPLOYMENT BASIS BY ROTATING THE AIRCRAFT AND CREWS FROM EXISTING LOCATIONS AS REQUIRED.

SLIDE # 6- OFF

SLIDE # 7 - ON *-CH-3C*

WE NOW HAVE FOUR CH3C'S AT PATRICK AFB TO PROVIDE AN EFFECTIVE RESCUE CAPABILITY IN CASE OF A LAUNCH PAD ABORT, AND TO PARTICIPATE IN THE MANY OTHER MISSIONS DIRECTLY CONNECTED WITH EASTERN TEST RANGE SPACE OPERATIONS. THIS PROGRAM IS A FIRST STEP IN THE RIGHT DIRECTION FOR OUR EXPANDED ROLE, BUT IS CERTAINLY NOT AN END IN ITSELF. THIS SUBJECT WILL BE DISCUSSED FURTHER A LITTLE LATER ON. CONSIDER NOW THE TYPES AND NUMBERS OF RESCUE AIRCRAFT REQUIRED TO ACCOMPLISH OUR ASSIGNED MISSIONS.

SLIDE # 7 - OFF

SLIDE # 8 - ON *130 500 LOCATION & RADIUS*

FIRST, FIXED-WING

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FIRST, FIXED-WING AIRCRAFT. AS OF THE FIRST OF JAN 67, OUR CONVERSION TO HC-130 WILL HAVE BEEN COMPLETED AND THE HC-54'S AND HC-97'S RETIRED OR REASSIGNED TO RESERVE UNITS. AS CURRENTLY PROGRAMMED, THE FORCE WILL CONSIST OF 54 UE HC-130'S WITH 6 ADDITIONAL COMMAND SUPPORT, AUGMENTED BY 30 HU-16'S WITH 4 ADDITIONAL FOR COMMAND SUPPORT. THIS WOULD BE AN EFFECTIVE FORCE FOR THE NORMAL DAY-TO-DAY FIXED-WING MISSION OF PROVIDING PRECAUTIONARY AND EMERGENCY COVERAGE FOR DEPLOYING TACTICAL AIRCRAFT, AND OTHER AREA MISSIONS, SUCH AS ADVANCED STRIP ALERT OR ORBIT FOR AIRCRAFT ENGAGED IN RECONNAISSANCE IN THE PERIPHERY OF RED CHINA OR RUSSIA.

OVERLAY #1 - ON *Apollo Deployments*

BUT SUPER-IMPOSED ON TOP OF THE NORMAL MISSION REQUIREMENTS IS THE SPACE RECOVERY MISSION WHICH ~~REQUIRES~~ *INVOLVES* EXTENSIVE DEPLOYMENT, AS SHOWN ON THIS SLIDE. THIS IS TYPICAL OF THE DEPLOYMENT REQUIRED, HOWEVER, SPECIFIC LOCATIONS MAY CHANGE FROM TIME TO TIME, DEPENDING ON THE PLANNED GROUND TRACK OF THE ORBITING SPACECRAFT. GENERALLY SPEAKING, HOWEVER, THIS FORCE MUST BE DEPLOYED SO AS TO LOCATE THE SPACECRAFT IN ANY LOCATION AROUND THE GLOBE FROM 40°N TO 40°S, AND THEN TO RECOVER

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OR RENDER AID/ TO THE CREW WITHIN 1-18 HRS AFTER THE  
SPACECRAFT HAS RE-ENTERED THE EARTH'S ATMOSPHERE.  
~~DEPENDING ON THE SITUATION,~~ THIRTY-SIX (36) AIRCRAFT  
ARE REQUIRED TO MEET THE CONTINGENCY RE-ENTRY REQUIREMENTS.  
IN ADDITION TO CONTINGENCY DEPLOYMENT, WE ~~WILL ALSO~~ *MUST ALSO*  
PROVIDE 10 HC-130'S FOR PINPOINTING THE SPACECRAFT IN  
THE PLANNED LANDING AREA. ~~UNCLAS~~ IN THE CASE OF

SLIDE OVERLAY #1 - OFF

SLIDE #9 - ON *APOLLO FOOTPRINT*

APOLLO MISSIONS, ~~WE ARE DEALING WITH~~ *we are dealing with* A LANDING FOOTPRINT OF 1000 X 5000  
*Thus* MILES. THE TOTAL REQUIREMENT ADDS UP TO 46 HC-130'S, ~~FOR~~  
~~THE APOLLO SPACE RECOVERY MISSION.~~

THIS EQUATES TO  
APPROXIMATELY 76% OF THE TOTAL 60 ACFT FOR WHICH WE ARE  
PROGRAMMED. HOWEVER, 6 OF THIS NUMBER ARE COMMAND  
SUPPORT SO THAT AIRCREWS AND ADDITIONAL MAINTENANCE  
PERSONNEL MUST COME OUT OF OUR HIDE TO MEET THE 46  
AIRCRAFT REQUIREMENT. WE FEEL ONE OF THE FIRST ACTIONS  
THAT MUST BE TAKEN TO ESTABLISH AN EFFECTIVE SPACE  
RECOVERY FORCE IS TO HAVE THESE 6 COMMAND SUPPORT  
AIRCRAFT DESIGNATED AS UE. AT ~~THESE~~ DEPLOYED LOCATIONS OUR  
AUGMENTED CREWS AND MAINTENANCE PERSONNEL WILL BE ON  
CONTINUOUS RAPID REACTION ALERT FOR THE DURATION OF THE  
SPACE FLIGHT. ~~UNCLAS~~

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DESIGNATING 6 ~~SECRET~~ CONFIDENTIAL  
SPACE FLIGHT. / ~~NO~~ ADDITIONAL AIRCRAFT ~~AS~~ AS  
WE WILL ALLEVIATE THIS SITUATION TO A DEGREE BY PROVIDING  
ADDITIONAL MANPOWER SPACES.

SLIDE # 9 - OFF

SLIDE # 10 - ON - HU 16 LOCATIONS

DEPLOYMENT OF THE IN-COMMISSION HC-130 FLEET  
WILL LEAVE 30 HU-16'S IN 4 SQUADRONS TO RESPOND TO ALL  
OTHER USAF SAR REQUIREMENTS AROUND THE GLOBE. WHILE  
OUR HC-130 FLEET IS TOTALLY INVOLVED IN SPACE RECOVERY,  
THE REMAINDER OF THE RESCUE FLEET THEORETICALLY PICKS UP  
ALL REMAINING SEARCH, RESCUE AND RECOVERY MISSIONS.  
IN ACTUAL PRACTICE, THE HC-130'S ON SPACE ALERT CAN OFTEN  
RESPOND TO AN EMERGENCY REQUIREMENT SO THAT, IN FACT, OUR  
BASE AREA OF OPERATIONS AROUND THE GLOBE IS EXPANDED.  
HOWEVER, THE ACTUAL NUMBERS OF AIRCRAFT ON THE NORMAL  
LINES OF COMMUNICATION ARE DIMINISHED, AND, IN FACT,  
DIMINISHED TO AN UNACCEPTABLE DEGREE.

SLIDE # 10 - OFF

SLIDE # 11 - ON - HU 16 break down

THREE OF THESE, BY TAIL NUMBER, ARE  
ASSIGNED TO THE HU-16 SCHOOL WHERE THEY ARE  
REQUIRED TO INSURE THE

FLOW OF QUALIFIED

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FLOW OF QUALIFIED PERSONNEL TO OUR OVERSEAS HU-16  
UNITS. APPLYING THE STANDARD IN-COMMISSION RATE OF  
71% TO THE REMAINDER OF 27,

OVERLAY #1 - ON

WE COME UP WITH 19 ACFT FOR THE TOTAL NORMAL SAR FUNCTION.

OVERLAY #2 - ON

5 OF THESE ARE DEPLOYED IN VIETNAM ON A ROTATIONAL BASIS,  
LEAVING A TOTAL OF 14 AVAILABLE.

OVERLAY #3 - ON

2 ARE ON CONTINUOUS DEPLOYMENT TO HOMESTEAD AFB FOR  
CARIBBEAN COVERAGE, WHICH IS AN INDEFINITE COMMITMENT,  
LEAVING 12 AVAILABLE WORLD-WIDE.

OVERLAY #4 - ON

OF THESE 12, 5 WILL BE REQUIRED FOR EMERGENCY ALERT AT  
EACH SQDN LOCATION NOT COVERED BY THE HC-130 FLEET,  
LEAVING AN AVERAGE OF 7 ~~ACFT~~ PER DAY.

OVERLAY #5 - ON

ADVANCED BASE STRIP ALERT REQUIREMENTS OF 3 AIRCRAFT  
PER DAY DIMINISH THIS NUMBER TO 4 HU-16'S TO MEET ALL  
OTHER USAF GLOBAL REQUIREMENTS, OTHER THAN EMERGENCY.

~~EVEN THIS FIGURE IS SOMEWHAT SUSPECT IF WE CAN JUDGE  
BY RECENT TRAIN AVERAGES OF 7 HU-16S AT A GIVEN TIME,  
WHICH IS 3 MORE THAN THE 4 ACFT COMMAND SUPPORT CUSHION.~~

NOW, THESE ARE

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NOW, THESE ARE AIRFRAMES WE'RE TALKING ABOUT -  
NOT STATISTICS - AND, AS MUCH AS WE'D LIKE TO, WE CAN'T  
JUGGLE AIRFRAMES, ~~LIKE WE MANIPULATE STATISTICS.~~  
SECONDLY, WE'RE NOT TALKING ABOUT PERIODS OF TWO OR THREE  
DAYS FOR SPACE RECOVERY DEPLOYMENT, BECAUSE DURING THIS  
PERIOD, ~~WE'RE BEING INTO A SITUATION WHERE~~ THE SPACE  
PROGRAMS <sup>will</sup> OVERLAP.

SLIDE # 11 - OFF

SLIDE # 12 - ON

*Gemini, Apollo, MOL  
schedule*

~~CONFIDENTIAL~~ ~~SECRET~~ ~~CONFIDENTIAL~~ AND SO DO OUR DEPLOYMENT  
REQUIREMENTS. <sup>do likewise</sup> THE FREQUENCY AND OVERLAP OF SPACE  
LAUNCHES INCREASES THROUGH 1967, UNTIL IN 1968 THE HC-130  
FLEET WILL BE DEPLOYED AT LEAST 50% OF THE TIME. FOR  
EXAMPLE, IN JULY, AUGUST AND SEPTEMBER OF 1968, TENTATIVE  
SCHEDULES CALL FOR TWO APOLLO LUNAR MISSIONS OF 10 DAYS  
EACH AND ONE MOL MISSION OF 30 DAYS. THESE COULD  
OCCUR ALL IN THE SAME 30-DAY PERIOD, BUT WE HAVE TO PLAN  
FOR THE <sup>most demanding</sup> ~~worst~~ SITUATION. BY TACKLING ON 3 DAYS ON EACH  
END OF EACH MISSION FOR DEPLOY<sup>MENT</sup> ~~ING~~, REDEPLOY<sup>MENT</sup> ~~ING~~ AND  
EXERCIS<sup>ING</sup> ~~ING~~, IT IS POSSIBLE THAT THE HC-130'S WILL BE  
DEPLOYED 75% OF THE TIME. IN EITHER CASE, IN EXCESS OF  
50% APPEARS TO BE A REASONABLE ASSUMPTION. BY 1970,  
CURRENT FORECASTS LEAD US TO BELIEVE THAT THERE WILL BE

MEN IN SPACE

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MEN IN SPACE/ CONTINUOUSLY AND, AT ANY TIME, AT ANY LOCATION AROUND THE GLOBE, AN EMERGENCY IN THE SPACECRAFT MAY REQUIRE IMMEDIATE RE-ENTRY FOR A CONTINGENCY LANDING. THIS MEANS CONTINGENCY DEPLOYMENT 100% OF THE TIME WHEN THIS COMES TO PASS.

THIS, THEN IS HOW THE FUTURE LOOKS FOR THE CURRENTLY PROGRAMMED FIXED-WING AIRCRAFT. ADDITIONAL RESOURCES MUST BE MADE AVAILABLE <sup>IF WE ARE TO</sup> DO THE JOB PROFESSIONALLY.

SLIDE # 12 - OFF

SLIDE # 13 - ON

*130, Apollo Deployment*

SPECIFICALLY, AN AUGMENTATION OF 41 UE HC-130H ACFT IS REQUIRED TO REPLACE THE HU-16'S STARTING IN THE THIRD QUARTER OF FISCAL 67. THE HU-16 HAS PLAYED AN IMPORTANT ROLE IN RESCUE IN THE PAST BUT <sup>IT</sup> IS TIME-WORN, OBSOLESCE<sup>NT</sup>, AND INCREASINGLY DIFFICULT AND COSTLY TO MAINTAIN. THE USAF IG RECOGNIZED THIS IN THE RECENT ARS CAPABILITY REPORT, AND FIRM ACTIONS MUST BE TAKEN NOW IF WE ARE TO PROGRAM REPLACEMENT IN FISCAL 67.

OVERLAY # 1 - ON *Alaska*

THESE ADDITIONAL HC-130'S WILL BE ASSIGNED TO EXISTING SQUADRONS, WITH THE EXCEPTION OF 5 ACFT, WHICH WILL

FORM THE FIXED-WING

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FORM THE FIXED-WING ELEMENT OF A SQUADRON TO BE  
ACTIVATED IN ALASKA. \* JUSTIFICATION FOR THIS NEW UNIT  
IS CONTAINED IN THE DOCUMENT BUT, SIMPLY STATED, THERE  
IS A LARGE GAP IN RESCUE CAPABILITY IN THE POLAR REGIONS,  
~~AND~~ *we now have* SUFFICIENT AND SIGNIFICANT MILITARY TRAFFIC TO  
JUSTIFY THE ESTABLISHMENT OF A NEW UNIT. ~~THIS~~

UNIT IN ALASKA, <sup>+</sup> LONG-RANGE HELICOPTERS AT THULE AB, <sup>+</sup>  
~~AND~~ THE 67TH ARSQ OPERATING FROM PRESTWICK, ~~WILL~~ *will provide*  
*US with* A MUCH IMPROVED CAPABILITY TO COVER THE NORTH  
POLAR REGION, AS SHOWN ON THIS SLIDE.

SLIDE # 13 - OFF

SLIDE # 14 - ON *New North coverage 5 circles*

TO SUMMARIZE THE FIXED-WING REQUIREMENTS, WE  
BELIEVE THE FOLLOWING ACTIONS ARE REQUIRED TO PROVIDE THE  
AIRCRAFT NECESSARY TO MEET ASSIGNED MISSIONS.

SLIDE # 14 - OFF

SLIDE # 15 - ON *actions required*

1. REDESIGNATE THE 6 HC-130H COMMAND SUPPORT  
AIRCRAFT AS UE AIRCRAFT.

*overlay* 2. COMMENCE PHASE-OUT OF THE HU-16, STARTING  
IN FFY 3/67.

*overlay* 3. REPLACE THE HU-16'S WITH HC-130'S, BUILDING  
<sup>3</sup> TO A TOTAL FORCE OF 101 UE WITH <sup>10</sup> ~~10~~ COMMAND SUPPORT ACFT  
BY FY 4/68.

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4. ACTIVATE THE XX ARSQ AT ELMENDORF AFB,  
ALASKA IN FY 3/68.

THIS IS NOT A PROGRAM DESIGNED TO ENLARGE  
RESCUE AS AN END IN ITSELF. THE REQUIREMENT FOR EACH  
AIRCRAFT IS DOCUMENTED IN OUR STUDY, AND THE RECOMMENDED  
FORCE WILL REMAIN AUSTERE THROUGHOUT THE PERIOD IN  
RELATION TO THE JOBS TO BE DONE.

SLIDE # 15 - OFF

SLIDE # 16 - ON - 8130 picture

~~SECRET~~ SOME OPENING COMMENTS  
REGARDING AID OR ASSISTANCE VS RESCUE MIGHT LEAD TO  
A CONCLUSION THAT EXPENDITURES FOR ADDITIONAL HC-130H'S  
CANNOT BE JUSTIFIED ON THE BASIS OF AID TO BE RENDERED  
RATHER THAN RESCUES TO BE PERFORMED. THE FACTS ARE THAT  
THE DISTRESSED PERSONNEL MUST BE FOUND BEFORE THEY CAN  
BE RESCUED, AND RAPID LOCATION IS OF THE UTMOST IMPORTANCE.  
SINCE THE CHANGES FOR SURVIVAL DECREASE RAPIDLY FOLLOWING A  
CRASH OR BAIL-OUT, DUE TO SHOCK, INJURY, OR EXPOSURE.  
THIS DICTATES THAT THE PRIMARY SEARCH AIRCRAFT HAVE  
SUFFICIENT SPEED, RANGE, AND ENDURANCE CAPABILITIES  
TO COPE WITH THE LOCATION PROBLEM, SUPPLEMENTED BY A  
CAPABILITY TO PROVIDE ON-SCENE ASSISTANCE BY DROPPING  
SURVIVAL GEAR OR PARARESCUE TEAMS, IF REQUIRED. THE  
HC-130H FILLS THE BILL FOR THIS REQUIREMENT IN THE CASE

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OF THE SPACE/ RECOVERY OR NORMAL LOC MISSION.  
IT ALSO HAS THE CAPABILITY TO RETRIEVE INDIVIDUALS  
OR SMALL GROUPS BY EMPLOYMENT OF THE FULTON  
RECOVERY SYSTEM. WE HAVE A SHORT FILM WHICH  
WILL SHOW YOU HOW THE FULTON SYSTEM WILL BE  
USED.

SLIDE # 16 - OFF

FILM - ON

*However,* THERE ARE LIMITATIONS

IN THE SYSTEM

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IN THE SYSTEM/ UNDER CERTAIN TERRAIN CONDITIONS, SUCH AS A STEEP SLOPE OR CANYON. CEILING AND VISIBILITY ARE ALSO POSSIBLE LIMITING FACTORS, SINCE THE BALLOON COULD BE IN THE CLOUDS IF THE CEILING WAS LESS THAN 600 FT, OR THE AIRCRAFT COULD NOT MANEUVER TO ENGAGE THE SYSTEM UNDER LOW VISIBILITY CONDITIONS. IF THE RECOVERY REQUIREMENT EXCEEDS THE HC-130 SYSTEM CAPABILITIES, THE OPTIONS ARE TO ATTEMPT RESCUE BY OPPORTUNE SURFACE MEANS OR TO PROVIDE A COMPLEMENTARY SYSTEM. OUR STUDIES INDICATE THE CH-3C HELICOPTER IS THE IMMEDIATE ANSWER.

SLIDE #17 - ON *picture*

AS A RESULT OF THE CAT III TESTS CONDUCTED FOR USAF BY OUR DETACHMENT AT PATRICK AFB, WE ARE PARTICULARLY ENTHUSIASTIC ABOUT THE CH-3C. IN ALL CASES, PERFORMANCE OF THIS AIRCRAFT HAS EXCEEDED THE MANUFACTURER'S CLAIMS. *IT provides a big*

*step forward in* OUR ULTIMATE GOAL <sup>OF</sup> AN AIR RESCUE FORCE CONSISTING OF A CAREFULLY COMPUTED MIX OF A MINIMUM NUMBER OF AIRCRAFT TYPES. IN THIS COMBINATION WE

MUST HAVE AIRCRAFT

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MUST HAVE AIRCRAFT WHICH POSSESS OCEAN SPANNING RANGE AND HIGH SPEED, AND ALSO HAVE THE LOW DOWNWASH HOVERING AND CONTROL QUALITIES OF THE PRESENT HELICOPTER. WE WILL ALSO NEED HEAVY-LIFT AERIAL CRANE VEHICLES. THIS TYPE, NOW WITHIN THE STATE-OF-THE-ART, WILL BE DISCUSSED LATER.

UNTIL SUCH A VEHICLE MIX IS OPERATIONAL, PRESENTLY AVAILABLE LONG-RANGE, FIXED-WING AIRCRAFT, IN COMBINATION WITH SUFFICIENT QUANTITIES OF HIGH-PERFORMANCE HELICOPTERS, WILL BE REQUIRED TO ENABLE ARS TO RESCUE PEOPLE AND RECOVER HARDWARE FROM ANY PLACE AT ANYTIME.

IN ESSENCE, THIS IS NOT A NEW CONCEPT, HU-16'S TEAMED WITH H5'S AND H-19'S TO RESCUE NEARLY 10,000 MILITARY PERSONNEL DURING THE KOREAN WAR. THE HU-16 DID THE SEARCH-LOCATION JOB AND WHEN CONDITIONS WERE RIGHT, ALSO PERFORMED THE ACTUAL RESCUE. NINE THOUSAND TIMES IN THAT WAR, <sup>however</sup> ~~the~~ CONDITIONS WEREN'T RIGHT - AND THE RESCUE WAS PERFORMED BY ~~the~~ HELICOPTERS OF THAT DAY.

THE CONCEPT OF MATING THE HELICOPTER AND THE FIXED-WING AIRCRAFT CONTINUED AFTER KOREA, BUT NO SUBSTANTIAL IMPROVEMENTS WERE MADE IN EITHER VEHICLE TO ENHANCE THE COMBAT RESCUE FORCE. ~~SECRET~~

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*The* ~~RESCUE~~ FORCE NOT ONLY DWINDLED IN SIZE, BUT NONE OF THE MEANINGFUL DEVELOPMENTS IN HELICOPTERS WERE INCORPORATED IN AIR RESCUE SERVICE EQUIPMENT TO KEEP AND UPDATE THE CONCEPT. TO THE CONTRARY, BY 1961 THIS STILL VALID CONCEPT WAS DORMANT. USAF'S COMBAT AIR RESCUE FORCE CONSISTED OF 56 FIXED-WING AIRCRAFT - 20 SA-16'S AND 36 C-54'S. WE COULD SEARCH, LOCATE, RENDER AID (BY PARARESCUE) AND ACTUALLY RESCUE A FEW PEOPLE, BUT ONLY WITHIN THE LIMITED CAPABILITY OF THE SA-16.

FORTUNATELY, ~~RESCUE~~ SOME MEANINGFUL IMPROVEMENTS IN HELICOPTERS DID TAKE SHAPE IN THE AIRCRAFT INDUSTRY. TWIN-TURBINE, HIGH-SPEED, ALL-WEATHER ~~RESCUE~~ HELICOPTERS WERE DEVELOPED AS A PRIME WEAPON SYSTEM FOR USE IN ANTI-SUBMARINE WARFARE. THIS IS SIGNIFICANT BECAUSE MANY OF THE REQUIREMENTS AND ELEMENTS OF THE ASW MISSION HAVE VALID APPLICATION ~~IN~~ <sup>TO</sup> THE COMBAT AIR RESCUE HELICOPTER MISSION. THESE ELEMENTS ARE THE ABILITY TO TRANSIT ALL-WEATHER CONDITIONS, INCREASED RANGE FOR SEARCH, ~~PROLONGED~~ HOVER, SELF-CONTAINED DOPPLER NAVIGATION SYSTEM, INCREASED CRUISE SPEED, AND A TRIPHIBIOUS CAPABILITY. THESE AND OTHER IMPROVEMENTS WERE INCORPORATED IN THE SIKORSKY S-61, ~~HOWEVER~~ THE FORERUNNER OF THE CH3C, WHICH

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WAS SELECTED TO MEET SOR 190. THREE OF THE  
5 MISSIONS FOR WHICH IT WAS PROCURED ARE THOSE  
FOR WHICH WE ARE RESPONSIBLE. THESE ARE AEROSPACE  
HARDWARE RECOVERY, ~~COMBAT~~ RECOVERY, AND  
AIRLIFT. HOWEVER, NONE OF THE 107 AIRFRAMES WERE  
PROGRAMMED INTO ARS. THEY WERE FRAGMENTED AND  
PROGRAMMED INTO 5 MAJOR AIR COMMANDS. MATS, ADC,  
AND ATC WERE ALTERNATELY DESIGNATED AS THE "USING"  
COMMANDS TO CONDUCT CATEGORY III ~~TESTS~~.  
~~TESTS~~. AS YOU KNOW, IN MAY 1964, USAF RE-  
DIRECTED MATS AS THE CH3C "USING COMMAND". ARS  
TOOK OVER THE ACTUAL ~~TEST~~ TEST PROGRAM FROM  
ATC. SINCE THIS PROGRAM HAS BEEN ASSIGNED AND  
PERFORMED BY ARS, IT HAS STAYED ON, OR AHEAD OF,  
SCHEDULE.

TODAY ONLY 4 CH3C'S ARE ASSIGNED IN ARS  
AT PATRICK AFB. 4 MORE ARE PROGRAMMED INTO ~~THE~~ *the*  
DETACHMENT AT GOODFELLOW, FOR AN AUSTERE TOTAL OF 8.  
EVEN PRIOR TO THESE EVENTS, ARS VIEWED THE CH3C'S AS  
THE BEST AVAILABLE VTOL AIRCRAFT TO COMPLEMENT  
PROGRAMMED FIXED-WING HC-130'S TO PROVIDE AN UPDATED  
COMBAT RESCUE AND HARDWARE RECOVERY FORCE.

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THE TEST RESULTS/ CONFIRMED OUR VIEW, AND  
ARS SUBMITTED QOR'S TO BETTER ADAPT THE CH3C FOR THE  
ARS MISSION TO INCLUDE AIR-TO-AIR REFUELING FROM THE  
HC-130H.

SLIDE # 17 - OFF

SLIDE # 18- ON *AIR TO AIR*

ASD PRELIMINARY FLIGHT TESTS INITIALLY INDICATE AIR-TO-  
AIR REFUELING FEASIBLE, BUT TO DATE NO FURTHER ACTIONS  
HAVE BEEN TAKEN. WE'VE PROVEN THAT THE CH3C HAS A  
PRACTICAL 1000 MILE RANGE USING INTERNAL AUXILIARY  
TANKS, TAKING OFF AND LANDING VERTICALLY. WE BELIEVE  
RUNNING TAKE-OFFS WOULD INCREASE THE RANGE TO ABOUT  
1500 NM, BUT THIS HAS NOT BEEN TESTED. THE ABILITY  
TO AIR-TO-AIR REFUEL WOULD GIVE THE CH3C UNPARALLELED  
LONG-RANGE RESCUE CAPABILITY WITHOUT DEPENDENCE ON,  
OR DEPLETION OF, CRITICAL AIRLIFT FORCES - THAT IS:  
RESCUE WHERE IT'S NEEDED, WHEN NEEDED, WITHOUT  
COSTLY TEAR-DOWN, OR REASSEMBLY.

WITH AIR-TO-AIR REFUELING A PRACTICAL REALITY,  
RECOVERY OF INJURED OR NON-AMBULATORY ASTRONAUTS ALSO  
BECOMES A PRACTICAL REALITY AT GREATER RANGES. THE FIRST  
OF 27 PROJ APOLLO MISSIONS IS PROGRAMMED FOR THE FIRST

QUARTER OF CALENDAR

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QUARTER OF CALENDAR YEAR 1966. THE MANNED OR "500"  
SERIES MISSIONS BEGIN IN THE 3D QUARTER OF CALENDAR  
YEAR 1967. WE KNOW THAT 60 UE HC-130H'S WILL BE IN  
THE ARS INVENTORY BY THIS TIME. <sup>However</sup> ~~UNLESS~~ THE CH3C,  
CAPABLE OF BEING AERIAL REFUELED, IS ALSO IN THE INVENTORY,  
OUR RECOVERY FORCE WILL BE LIMITED TO COMPLETE DEPENDENCE  
UPON THE FULTON RECOVERY SYSTEM. WE KNOW THAT SAFETY  
OF THE ASTRONAUTS, ~~FROM LAUNCH TO~~ IS OF PARAMOUNT  
CONCERN, ~~AND THAT~~ TERRAIN  
OR WEATHER CONDITIONS ~~WILL~~ MAY  
ENTIRELY RULE OUT EMPLOYMENT OF THE SYSTEM FOR SPACE  
RECOVERY MISSIONS. ~~This fact makes~~ A BACK-UP  
RECOVERY CAPABILITY ~~MANDATORY~~. ~~The requirement for~~  
~~one to 18 HRS~~ ACCESS TIME FOR CONTINGENCY RECOVERY,  
PLUS THE ECONOMICS OF EMPLOYING NUMEROUS U. S. NAVY  
SHIPS OF THE LINE AS HELICOPTER CARRIERS, MITIGATE AGAINST  
THEIR CONTINUED USE. A GLOBAL AIR RECOVERY MIXED FORCE  
IS REQUIRED NOW AND THROUGHOUT THE 1975 TIME PERIOD, AND  
THE IMMEDIATE REQUIREMENT IS FOR ~~CH3C'S~~ CH3C'S  
TO OPERATE IN CONJUNCTION WITH THE HC-130H ~~S~~

SLIDE #18 - OFF

SLIDE #19 - ON

HH43 PICTURE

(LOCAL BASE RESCUE (LBR)) - WHEN THE CH3C'S ARE  
IN THE INVENTORY

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IN THE INVENTORY / WE WILL REPLACE LIMITED PURPOSE LOCAL  
BASE RESCUE HELICOPTERS ON THOSE BASES WHERE WE'VE  
PROGRAMMED THE CH3C. THIS IS POSSIBLE BECAUSE THE  
CH3C IS ALSO AN EXCELLENT FIRE-SUPPRESSION HELICOPTER  
AND ABLE TO BE SCRAMBLED IN 3 MINUTES OR LESS. WE ARE  
OF THE OPINION THAT THE CURRENT CONCEPTS OF LOCAL BASE  
RESCUE WILL REMAIN VALID AS LONG AS WE HAVE HIGH-PERFORMANCE  
COMBAT AIRCRAFT. TODAY, THERE IS NO PROGRAM TO UPDATE  
THESE AIRCRAFT ALTHOUGH THE FIRST AIRCRAFT RECEIVED IN  
1958 HAVE EXCEEDED ~~THE~~ FIRST LINE LIFE. THE REPLACEMENT  
LBR HELICOPTER SHOULD HAVE A MORE RELIABLE AND MORE  
POWERFUL ENGINE, AND A TWIN-TURBINE MACHINE, WITH IFR  
CAPABILITY - IS DEFINITELY PREFERRED. WE BELIEVE A  
REPLACEMENT HELICOPTER ~~XXXXXXXXXX~~ CAN BE PROCURED  
FOR LESS THAN HALF THE COST OF THE PRESENT MACHINE ~~AND~~  
PHASED INTO THE LBR MISSION WHEN THE H43'S ARE RETIRED.  
A SMALL OFF-THE-SHELF HELICOPTER WHICH COULD MEET THIS  
REQUIREMENT IS NOW FLYING. OUR QOR FOR A REPLACEMENT  
TWIN-TURBINE LBR HELICOPTER IS INCLOSED IN OUR STUDY.

SLIDE # 19 - OFF

SLIDE # 20 - ON *scheduled launches  
w/ of capsule*

IN ADDITION TO THE HELICOPTERS WE HAVE DISCUSSED,  
WE FORESEE A POSSIBLE REQUIREMENT FOR A LIMITED NUMBER OF

HEAVY-LIFT HELICOPTERS SUCH

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HEAVY-LIFT HELICOPTERS SUCH AS THE ARMY CH-47 CHINOOK  
OR THE MARINE CH-53. ALTHOUGH WE ARE NOT CURRENTLY  
TASKED WITH AERIAL RECOVERY OF SUCH ITEMS AS THE  
10,000 LB APOLLO SPACECRAFT AFTER THE ASTRONAUTS HAVE  
BEEN REMOVED, THERE ARE NUMEROUS INDICATIONS THAT THE  
RECOVERY OF LARGER AND HEAVIER AEROSPACE HARDWARE WILL  
BE REQUIRED IN THE FUTURE. THIS IS AN ARS MISSION BY  
DEFINITION, AND THE USE OF AIRCRAFT TO RECOVER SPACECRAFT,  
REUSABLE BOOSTERS, OR OTHER LARGE SPACE HARDWARE, MUST  
BE PLANNED FOR AS THESE REQUIREMENTS DEVELOP. <sup>SINCE</sup> THE CH3C  
IS FAR MORE ECONOMICAL TO OPERATE THAN THE HEAVY-LIFT  
HELICOPTERS AND MEETS 90% OF OUR MISSION REQUIREMENTS,  
[REDACTED] ONLY A LIMITED NUMBER OF HEAVY-LIFT  
HELICOPTERS WILL BE REQUIRED, [REDACTED]

[REDACTED] HOWEVER, IT APPEARS REASONABLE  
TO ASSUME THAT ADDITIONAL HEAVY-LIFT <sup>REQUIREMENTS</sup> ~~WILL~~ <sup>RESULT</sup>  
<sup>FROM FUTURE</sup> SPACE RESEARCH AND DEVELOPMENT  
PROGRAMS.

SLIDE # 20 - OFF

SLIDE # 21 - ON

SUPPORT OF ARS

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~~SECRET~~ ~~CONFIDENTIAL~~ *Let's look at*  
SECTION VI - SUPPORTING SYSTEMS

1. ~~SECRET~~ AIRCRAFT ALONE WILL NOT PROVIDE A COMPLETE RESCUE/RECOVERY SYSTEM. *OTHER ARE required, flexible and*  
ELEMENTS IN SUPPORT OF THE MISSION ~~SECRET~~ AND THEY MUST BE CAPABLE OF EXPANDING AND ADAPTING TO CHANGING CONCEPTS OR UPDATING OF EQUIPMENT BROUGHT ABOUT BY STATE-OF-THE-ART IMPROVEMENTS.
2. WITHIN THE MATERIEL AREA, THE SYSTEM NECESSARY TO SUPPORT WORLD-WIDE DEPLOYMENT AND DISPERSAL IS ALREADY IN BEING AND LENDS ITSELF QUITE ADEQUATELY TO ~~SECRET~~ OUR MISSION. AFLC HAS YEARS OF EXPERIENCE IN SUPPORTING TACTICAL AIR COMMAND, COMPOSITE AIR STRIKE FORCES, MATS AIRLIFT EXERCISES AND SAC REFLEX ACTIONS. IF WE HAVE SUFFICIENT PRIORITY AND PRECEDENCE RATINGS, THIS SYSTEM SHOULD PROVE EFFECTIVE IN SUPPORTING ARS GLOBAL REQUIREMENTS. DURING DEPLOYMENT, THE USE OF MISSION SUPPORT KITS WILL PERMIT LIMITED MAINTENANCE IN THE FIELD.
3. UPDATING OF PRESENT EQUIPMENT, ADAPTATION AND USE OF EXISTING SIGNALLING DEVICES, AND A GENUINE AWARENESS OF A NEED FOR NEW IDEAS IS NECESSARY TO IMPROVE RESCUE EFFECTIVENESS. TO THIS END

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ARS HAS SUBMITTED/ A NUMBER OF QUALITATIVE  
OPERATIONAL REQUIREMENTS AND CLASS V MODIFICATION  
REQUESTS TO IMPROVE OUR CAPABILITIES. FOR  
EXAMPLE, WE MENTIONED A QOR FOR AN AIR-TO-AIR  
REFUELING SYSTEM FOR THE CH3C, WHICH WAS SUBMITTED  
~~IN~~ AUGUST 1964.

WE ALSO ESTABLISHED A QOR FOR AN  
AERIAL RETRIEVAL SYSTEM FOR THE CH3C ~~IN~~ APR 64  
TO PERMIT AERIAL RECOVERY OF HIGH VALUE HARDWARE  
SUCH AS ROCKET BOOSTERS, CAMERA CASSETTES ON THE  
NATIONAL MISSILE RANGES, AND BALLOON BORNE DATA  
CASSETTES FOR AWS AND AEC. THIS SYSTEM  
WILL PREVENT LOSS OR DAMAGE

TO EQUIPMENT DUE

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TO EQUIPMENT DUE TO HARD IMPACT LANDINGS OR WATER IMMERSION. TO EFFECTIVELY EMPLOY THE CH3C ON LONG RANGE MISSIONS AND TO INSURE ACCURATE NAVIGATION OVER REMOTE LAND MASSES AND AT SEA, AN ADEQUATE LONG RANGE NAVIGATION SYSTEM IS REQUIRED. CONSEQUENTLY, A CLASS V MODIFICATION FOR INSTALLATION OF LORAN "C" AN/ARN 78 RADIO NAVIGATION EQUIPMENT WAS SUBMITTED ON 4 JAN 1965.

IN THE AREA OF LOCATION DEVICES, WE SUBMITTED A ~~WORK~~ FOR A SOUND FIXING AND RANGING (SOFAR) OCEAN CRASH LOCATOR SYSTEM ON 13 JAN 1964. THIS ~~SYSTEM~~ IS PRESENTLY UTILIZED IN THE MISSILE IMPACT LOCATION SYSTEM (MILS) ~~SYSTEM~~

ON THE NATIONAL MISSILE RANGES. DESPITE THE FACT THAT SOFAR CHARGES ARE CARRIED ABOARD USAF, NAVY, AND FAA AIRCRAFT OPERATING FROM HAWAII, THE POTENTIAL OF THIS LOCATING DEVICE HAS NOT, TO OUR KNOWLEDGE, BEEN EXPLOITED OR FULLY EXAMINED.

4. ~~IN TOTAL 8~~ QUALITATIVE OPERATIONAL REQUIREMENTS AND  
11 REQUESTS FOR MODIFICATIONS TO EXISTING EQUIPMENT ARE CONTAINED WITHIN THE STUDY. WE BELIEVE ALL ARE JUSTIFIED ON THE BASIS OF INCREASED MISSION EFFECTIVENESS.

SLIDE #21 - OFF  
SLIDE #22 - ON - space rescue  
DURING THE SUCCESSFUL GEMINI MISSION ON 23 MAR,

AIR RESCUE SERVICE

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**SECRET**

AIR RESCUE SERVICE / PROVIDED COVERAGE FROM LAUNCH TO FINAL RECOVERY. WE HAD 4 CH3C'S ON STATION IN CASE OF PAD ABORT, OR EJECTION OF THE ASTRONAUTS BELOW 13,500 FEET. BETWEEN FLORIDA AND AFRICA, OUR HC-54'S AND HC-97'S COVERED THE LAUNCH ABORT AREA. IN SOUTH AMERICA, AFRICA, THE INDIAN OCEAN, AUSTRALIA, AND THE SOUTH PACIFIC, RESCUE AIRCRAFT STOOD BY FOR A CONTINGENCY LANDING, WITH PARARESCUE PERSONNEL ABOARD TO SECURE THE COMMAND MODULE AND TO PROVIDE ASSISTANCE AND MEDICAL AID, IF NECESSARY. IN THE PLANNED LANDING AREA, AN ADDITIONAL 4 AIRCRAFT WERE AVAILABLE IN CASE OF OVERSHOOT OR UNDERSHOOT. OVERALL, WE HAD A TOTAL OF 37 FIXED-WING AND 4 HELICOPTERS INVOLVED.

ONE OF OUR HC-54'S FOUND THE SPACECRAFT AND PARACHUTED PARARESCUE PERSONNEL TO PROVIDE CAPSULE FLOTATION AND MEDICAL AID. IF WE<sup>HAD</sup> HAD HEAVY-LIFT HELICOPTERS AT GRANDTURK, ARS COULD HAVE RETRIEVED THE ASTRONAUTS AND THE CAPSULE AT A FRACTION OF THE COST OF DEPLOYING THE AIRCRAFT CARRIER TO THE AREA.

WE HAVE ALSO GIVEN A LOT OF THOUGHT TO RESCUE IN SPACE ITSELF. FOR EXAMPLE, IF ONE OF THE MAJOR SUB-SYSTEMS OF THE GEMINI CAPSULE HAD FAILED, THUS PREVENTING RE-ENTRY OF

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PREVENTING RE-ENTRY OF / THE SPACECRAFT, THERE WAS NO MEANS OF PROVIDING RESCUE. WE BELIEVE THAT A SPACE RESCUE SYSTEM IS A VALID REQUIREMENT AND A NATURAL FOLLOW-ON TO RESCUE ON THE SURFACE - - NOT ONLY FOR HUMANITARIAN REASONS BUT ALSO BECAUSE OF CERTAIN PRACTICAL MILITARY ASPECTS.

SLIDE # 22 - OFF

SLIDE # 23 - ON

*space Rescue*

FOR EXAMPLE, THERE WILL BE A REQUIREMENT TO PHYSICALLY EXAMINE THE DISTRESSED SPACECRAFT IN SPACE. IN CONVENTIONAL AVIATION, WE SPEND THOUSANDS OF MANHOURS PIECING TOGETHER CRASHED AIRCRAFT. FOR IDENTICAL REASONS, THE ONLY SURE WAY TO FIND OUT WHAT HAPPENED IS TO GAIN DIRECT ACCESS TO THE CAPSULE.

SECOND, A RAPID RESPONSE <sup>By</sup> ~~RESCUE~~ RESCUE MAY ALSO PROVIDE A RAPID RESPONSE FOR REPAIR. MANY DIFFICULTIES COULD OCCUR <sup>which would be</sup> BEYOND THE CAPABILITY OF THE PRIMARY CREW TO REPAIR, BUT WITHIN THE CAPABILITIES

OF AN AUXILIARY

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OF AN AUXILIARY CREW EQUIPPED WITH REPLACEMENT COMPONENTS FOR MALFUNCTIONING SUB-SYSTEMS. REPAIR IN THIS SENSE IS A MEANS OF RESCUE, SINCE REPAIR WOULD PERMIT THE CREW TO COMPLETE THE MISSION AND BE RECOVERED IN THE NORMAL MANNER.

THIRD, EQUIPPING EACH SPACE VEHICLE WITH AN ESCAPE MODULE WOULD BE PROHIBITIVELY COSTLY. ~~IN TERMS OF THE ADDITIONAL BOOST REQUIRED FOR EACH CRAFT AND THE WEIGHT OF THE MODULE.~~ FURTHER, ESCAPE AND RE-ENTRY BY AUXILIARY MODULE WOULD MERELY REMOVE THE CREW FROM ONE HOSTILE ENVIRONMENT INTO ANOTHER - THAT IS, INTO THE OCEAN, JUNGLES, OR MOUNTAINS OR, IN THE CASE OF A POLAR ORBIT, INTO THE ARCTIC, ANTARCTIC, OR ASIAN COMMUNIST LAND MASS.

FOURTH, THE CAPABILITY TO INTERCEPT, IDENTIFY OR GAIN ACCESS TO SPACE VEHICLES, COOPERATIVE, PASSIVE OR UNCOOPERATIVE, WILL BE A VALID MILITARY REQUIREMENT IN THE SPACE AGE.

WE BELIEVE THAT IMMEDIATE ACTIONS <sup>should</sup> ~~must~~ BE TAKEN TO DEFINE AND PRODUCE <sup>USAF</sup> A RESCUE SYSTEM WHICH WILL MEET THE RESCUE REQUIREMENTS OF THE SPACE AGE. TO THIS END, WE SEEK YOUR ACTIVE ASSISTANCE IN GETTING THIS PROGRAM OFF THE GROUND.

SLIDE # 23 - OFF

~~THE DISCUSSED SYSTEMS~~  
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NOW LET'S REVIEW ORGANIZATION AND MANPOWER. WITHIN THE PAST TWO MONTHS, THE MATS STAFF WAS BRIEFED ON THE PROPOSED REORGANIZATION OF AIR RESCUE SERVICE, SO WE'LL MERELY HIT THE HIGHLIGHTS. [REDACTED] ESSENTIALLY, THE PROPOSAL IS TO ESTABLISH 3 RESCUE WINGS, SUBORDINATE TO ARS HQS, TO HANDLE,

TO ARS HQS, TO HANDLE SLIDE # 24 ON proposed org.  
(Wg Org & JSARCS)

DAY-TO-DAY OPERATIONS. OVERALL PLANNING AND OPERATIONAL CONTROL OF THE RESCUE FORCES WILL REMAIN WITH THE HEADQUARTERS, THUS PERMITTING CENTRALIZED CONTROL AND DECENTRALIZED EXECUTION. WE BELIEVE THIS ORGANIZATIONAL STRUCTURE WILL PROVIDE THE FLEXIBILITY NECESSARY TO MEET, OR ADAPT TO, EXISTING AND CHANGING USAF AND DOD RESCUE AND RECOVERY REQUIREMENTS FOR THE NEXT DECADE. WE HOPE THAT THE 3 WING STRUCTURE WILL BE IN BEING BY THE 3D QTR OF FY 66.

SLIDE # 24 - OFF

SLIDE # 24 - OFF

SLIDE # 25 -ON-(MANPOWER)

**THE MANPOWER REQUIRED**

REFLECTED ON THIS CHART. FROM OUR CURRENT

AUTHORIZATIONS FOR 3458

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AUTHORIZATIONS FOR 3458/ SPACES, THE FORCE BUILDS UP AS THE AIRCRAFT ARE PHASED INTO THE SYSTEM, UNTIL ALL AIRCRAFT ARE ON HAND IN THE 4TH QTR OF FY 68. THIS INVOLVES A GRADUAL BUILD-UP OF MANPOWER RESOURCES, AND RESULTS IN AN ADDITIVE REQUIREMENT OF 2659 AT THE COMPLETION OF THE PROGRAM. (255 ARE REQ. FOR REORGANIZATION, FOR A TOTAL OF 2914)

SLIDE # 25 - OFF

THE PERIOD WE'VE BEEN EXAMINING IS WITHIN THE NEXT 3 - 5 YEARS, BUT WE MUST NOW LOOK BEYOND THAT TIME, SINCE CONCURRENT DEVELOPMENT OF AIRCRAFT TO KEEP PACE WITH REQUIREMENTS IS ~~basic~~. basic.

SLIDE # 26 - ON

ROTOR WG.

PAST EFFORTS TO GET AN OPERATIONAL VTOL OR V/STOL RESCUE/RECOVERY AIRCRAFT OF PRACTICAL VALUE INTO THE INVENTORY HAVE BEEN FRAGMENTED, AND HAVE RESULTED TO DATE IN LITTLE REAL PROGRESS. WE WILL NOT GO INTO DETAIL HERE IN DISCUSSING THE WHOLE SPECTRUM OF V/STOL POSSIBILITIES. OUR APPROACH HAS BEEN TO WEED OUT THE ~~unsuitable~~ CONFIGURATIONS, AND CONCENTRATE MORE THOROUGHLY ON THOSE WHICH GIVE REAL PROMISE OF FUTURE

APPLICATION IN THE

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APPLICATION IN THE GLOBAL AIR RECOVERY FORCE. ONE CENTRAL CRITERIA IS SET. THAT IS - THE AIRCRAFT MUST BE ABLE TO RESCUE PEOPLE, AND BE ADAPTABLE TO THE RECOVERY OF AEROSPACE HARDWARE, FROM ANY PLACE AT ANY TIME. THIS MEANS FROM UNPREPARED AREAS, AND IT MEANS LOW, (15 PSF OR LESS) DOWNWASH VELOCITIES. ←

SLIDE # 26 - OFF

SLIDE # 27 - ON *STOWED ROTOR*

WE VISUALIZE A MINIMUM NUMBER OF TYPES - SOMETIMES INTER-CHANGEABLE, AND DIRECTLY ADAPTABLE TO OUR COMPLETE RECOVERY MISSION. THE RESEARCH WORK THAT HAS BEEN DONE BY THE MILITARY AND INDUSTRY OVER THE PAST SEVERAL YEARS IS PROVIDING MANY MORE TECHNICAL AND ECONOMIC OPTIONS IN V/STOL THAN HERETOFORE. ~~AND~~ CONSEQUENTLY, A GREATER DIVERSITY OF TASKS CAN BE FORESEEN FOR V/STOL AIRCRAFT. ~~REQUIREMENTS~~ WE EMPHASIZE THAT THIS GROWING DIVERSITY OF OPTIONS AND TASKS MAKES IT MUCH MORE URGENT THAN EVER, THAT AIRCRAFT ~~CHARACTERISTICS~~ CHARACTERISTICS BE MATCHED PRECISELY AND CAREFULLY TO OPERATIONAL REQUIREMENTS.

A V/STOL AIRCRAFT FOR THE TACTICAL RESCUE MISSION REQUIRES EXTENDED HOVER AND MANEUVER AT HELICOPTER SPEEDS. THE MACHINE MUST OPERATE TO AND FROM COMPLETELY UNPREPARED SITES, AND

SLIDE # 27 - OFF

SLIDE # 28 - ON *HOT cycle DISC*

NEITHER HIGH DOWNWASH


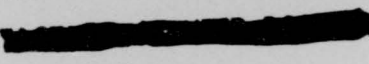
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NEITHER HIGH DOWNWASH/ VELOCITIES NOR EXCESSIVE  
HOVER FUEL FLOW CAN BE TOLERATED. THE HOT CYCLE,  
TRI-SECTOR ROTOR SYSTEM WOULD TEND TO GENERATE LOW  
DOWNWASH VELOCITIES AND PERMIT EXTENDED FLIGHT AT  
VERY LOW SPEEDS WITHOUT APPRECIABLE INCREASE IN  
MISSION FUEL LOAD. THIS WOULD PROVIDE EXCELLENT  
OPERATIONAL RESCUE FLEXIBILITY. WE BELIEVE THE  
CONCEPT HAS VERY PROMISING APPLICATION AS A HIGH-  
PERFORMANCE SUBSONIC (450 - 500 K) RECOVERY VEHICLE.   
IT COULD ALSO BE AIR-TO-AIR REFUELED FROM KC-135'S OR  
KC-130'S IN THE SAME MANNER AS TACTICAL FIGHTERS. IT  
COULD ACCOMPANY AIR STRIKES OR STAND STRIP ALERT AT  
ADVANCED UNPREPARED SITES, PERFORMING IMMEDIATE  
RESCUE OF DOWNED  CREWS.

SLIDE # 28 - OFF

SLIDE # 29 - ON *ATRAN*

WITHOUT EFFECTIVE "STATE OF THE ART"  
NAVIGATION AND COMMUNICATION SYSTEMS, RESCUE WILL  
BE UNABLE TO COPE WITH THE REQUIREMENTS IMPOSED BY THE  
TACTICAL FORCES AND SPACE OPERATIONS. CONSISTENT  
WITH TECHNICAL DEVELOPMENTS, AND THE AIRCRAFT IN OUR  
INVENTORY AT ANY GIVEN TIME, WE NEED THE BEST AVAILABLE.  
ONE CONCEPT IN WHICH WE ARE INTERESTED IS AUTOMATIC  
TERRAIN RECOGNITION AND NAVIGATION.

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SUCH A SYSTEM/ IS PRESENTLY IN USE IN THE MACE.  
IN THE HC-130'S OR CH3C'S IT WOULD PERMIT PINPOINT  
PENETRATIONS INTO HOSTILE TERRITORY AT NIGHT OR IN  
IFR, AND WE BELIEVE THAT SUCH EQUIPMENT COULD  
PROVIDE A CAPABILITY NOT PREVIOUSLY AVAILABLE IN  
MANNED AIRCRAFT.

WE HAVEN'T FULLY EXAMINED THE POSSIBILITIES  
OF USING SUCH A SYSTEM FOR COMBAT RESCUE, OR FOR  
OTHER PURPOSES. HOWEVER, MANY APPLICATIONS  
APPEAR FEASIBLE FOR PEACETIME USES, SUCH AS NAVIGATION

IN REMOTE AREAS,

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IN REMOTE AREAS, / AUTOMATIC LETDOWNS AT REMOTE AIRFIELDS WITHOUT AN APPROACH AID, OR EVEN EMERGENCY LET-DOWNS IF THE APPROACH AID BECOMES INOPERATIVE. (IF WE DETERMINE A DEFINITE APPLICATION TO THE AIR RESCUE MISSION, WE PROPOSE TO REQUEST AN ENGINEERING STUDY TO DETERMINE THE COSTS OF REMOVAL OF THE GUIDANCE SYSTEM FROM THE MACE, REDESIGN AND INSTALLATION IN THE HC-130H.)

IN ADDITION TO ADVANCED AIRCRAFT AND NAVIGATION SYSTEMS, WE ALSO HAVE A REQUIREMENT FOR DEVELOPING A SYSTEM, OR SYSTEMS, WHICH WILL DETECT PERSONS OR AIRCRAFT CONCEALED FROM VISUAL OBSERVATIONS AND NOT EQUIPPED WITH BEACONRY. THIS MAY BE A FORM OF A LIGHT AMPLIFICATION, ~~REDACTED~~ INFRA-RED APPLICATIONS OR MAGNETIC DEVICES.

SLIDE # 29 - OFF

SLIDE # 30 - ON *SATELLITE*

WE ALSO NEED A SYSTEM TO RECEIVE AND RELAY EMERGENCY ACFT OR PERSONNEL DISTRESS BEACONS OR SIGNALS, THUS FIXING A LOCATION ON EARTH WITHIN REASONABLE SEARCH PARAMETERS. SATELLITES MAY BE THE ANSWER FOR RELAYING LOCATION AND IDENTIFICATION OF PERSONNEL DOWNED IN HOSTILE TERRITORY, AND FOR PROVIDING A SECURE MEANS OF COMMUNICATING RECOVERY INFORMATION. SUCH A SATELLITE IN A POLAR ORBIT COULD PROVIDE COMPLETE COVERAGE OF THE EARTH'S SURFACE EACH 18 HRS.

SLIDE # 30 - OFF

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WE'VE COVERED A LARGE AMOUNT OF MATERIAL  
IN A RELATIVELY SHORT TIME, INCLUDING SOME PHILOSOPHIES  
AND CONCEPTS WHICH HAVE NOT BEEN PREVIOUSLY PRESENTED.  
AS A BRIEF SUMMARY, WE'D LIKE TO PRESENT OUR OVERALL  
VIEW OF THE RESCUE AND RECOVERY MISSION AND FORCES VS  
THE REQUIREMENTS FOR THE NEXT 10 YRS. ALL OF OUR  
EQUIPMENT MUST BE INTER-RELATED AND ~~OF~~ SUPPORT USAF  
COMBAT CAPABILITY. *IS A PRIMARY CONSIDERATION.*

SLIDE #31 - ON *000 SPACE*

WE NEED A MODERN FIXED-WING FORCE TO MEET BOTH  
FORECAST SURFACE ~~REQUIREMENTS~~ REQUIREMENTS FOR THE  
MANNED SPACE PROGRAMS, AND THE CONVENTIONAL SAR MISSION.

OVERLAY #1 - ON *CONVENTIONAL*

THESE FORCES ARE MUTUALLY SUPPORTING AND, IN FACT, ARE  
IDENTICAL IN CAPABILITY. THIS WILL PROVIDE THE NECESSARY  
DEPTH IN FIXED-WING RESOURCES, ESSENTIAL TO MEET OUR GLOBAL  
RESCUE AND AEROSPACE HARDWARE RECOVERY RESPONSIBILITIES.

OVERLAY #2 - ON *THE Peac Heli*

OUR HIGH PERFORMANCE HELICOPTERS WILL BE THE BACKBONE  
OF OUR COMBAT RECOVERY FORCES, BUT THEY ARE ALSO  
ESSENTIAL TO THE PEACETIME MISSION. THESE AIRCRAFT ARE  
AS CLOSE AS WE CAN COME TO A LONG RANGE V/STOL  
CAPABILITY DURING THE PERIOD THEY ARE REQUIRED. THE

INTER-RELATIONSHIP WITH THE

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INTER-RELATIONSHIP WITH THE SPACE RECOVERY FORCES AND THE CONVENTIONAL SAR FORCES CAN BE STRENGTHENED BY AN AIR-TO-AIR REFUELING CAPABILITY, WHICH WILL GIVE ARS A GLOBAL COVERAGE FOR RESCUE OF INJURED PERSONNEL OR GROUPS, AND RETRIEVAL OF MATERIEL. (ON THE COST EFFECTIVENESS SIDE, THIS TEAM WILL PAY ITS WAY BY ELIMINATING THE REQUIREMENT FOR SUBSTANTIAL NUMBERS OF COMBAT SHIPS TIED UP IN SPACE RECOVERY PROGRAMS.)

OVERLAY #3 - ON LBR

THE LAST ELEMENT OF THE RESCUE FAMILY IS THE LOCAL BASE RESCUE HELICOPTER FORCE, WHICH MORE THAN PAYS FOR ITSELF EACH YEAR. THE INTER-RELATIONSHIP STILL HOLDS WITH THE OTHER RESCUE FORCES, BY PROVIDING A VERTICAL LIFT CAPABILITY TO SUPPLEMENT THE FIXED-WING FORCES WHEN AND AS REQUIRED.

EACH RESCUE ELEMENT HAS A JOB TO DO AND EACH CAN, TO A VARYING DEGREE, COMPLEMENT THE OTHER DEPENDING ON THE SITUATION. THESE CHARACTERISTICS WILL PERMIT US TO TAILOR A FORCE TO COVER THE FULL SPECTRUM OF COMBAT REQUIREMENTS - FROM RESCUE COVERAGE DURING TAKE-OFF,

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ALONG THE ROUTES/TO THE COMBAT AREA, PICKUP WITHIN THE COMBAT AREA, AND COVERAGE OF THE LANDING PHASE AT HOME BASE.

RESCUE IS A FORCE WHICH CAN AND DOES PAY ITS WAY IN PEACETIME BY CONSERVING HUMAN AND MATERIEL RESOURCES. IN THE COMBAT SITUATION, WE NOT ONLY BALANCE THE BOOKS, BUT GET WELL AHEAD. THE RESCUE & RECOVERY SITUATION IS DYNAMIC AND CHANGING. EVEN WHILE THIS BRIEFING WAS BEING PREPARED, TWO AGENCIES INDICATED FUTURE RECOVERY REQUIREMENTS OF WHICH WE HAD NOT BEEN PREVIOUSLY AWARE.

SLIDE # 31 - OFF

SLIDE # 32 - ON (10 SECONDS ONLY)

SLIDE # 33 - ON (10 SECONDS ONLY)

SLIDE # 34 - ON (10 SECONDS ONLY)

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HEAVY HELICOPTERS  
AIRCRAFT  
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MISSION

THESE FINAL CHARTS SUMMARIZE THE REQUIREMENTS AS WE SEE THEM. OUR STUDY IS ONLY A

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STARTING POINT, AND WE MUST CONTINUE TO PRESS FOR CHANGES AND IMPROVEMENTS AS FUTURE DEVELOPMENTS DICTATE. ~~WE BELIEVE, FOR THE FIRST TIME IN ARS HISTORY, WE HAVE THE OPPORTUNITY TO BECOME A TRULY EFFICIENT GLOBAL RESCUE ORGANIZATION.~~ IN SUITABLE NUMBERS, THE HC-130 AND THE CH3C WILL FORM THE BASIS

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FOR A GOOD BEGINNING - NOW AND IN THE NEXT FOUR  
TO SEVEN YEARS. PHASED IN WITH V/STOL AIRCRAFT,  
AND COMPATIBLE NAVIGATION AND COMMUNICATIONS  
SYSTEMS WHICH SEEM WELL WITHIN REACH OF THE STATE-OF-  
THE-ART, WE CAN ACHIEVE AND MAINTAIN A WORLD-WIDE  
USAF AIR RESCUE CAPABILITY DURING THE NEXT DECADE.

*We believe, for the first time in  
ARS history, we have the  
opportunity to become a  
truly effective + efficient  
global rescue organization.*

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